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THE WRITINGS OF JOHN BURROUGHS

WITH PORTRAITS AND MANY ILLUSTRATIONS

VOLUME V

Fringed Gentian

THE WRITINGS

OF

JOHN BURROUGHS

V

PEPACTON

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PREFACE

I HAVE all the more pleasure in calling my book after the title of the first chapter, "Pepacton," because this is the Indian name of my native stream. In its watershed I was born and passed my youth, and here on its banks my kindred sleep. Here, also, I have gathered much of the harvest, poor though it be, that I have put in this and in previous volumes of my writings.

The term "Pepacton" is said to mean "marriage of the waters;" and with this significance it suits my purpose well, as this book is also a union of many currents.

The Pepacton rises in a deep cleft or gorge in the mountains, the scenery of which is of the wildest and ruggedest character. For a mile or more there is barely room for the road and the creek at the bottom of the chasm. On either hand the mountains, interrupted by shelving, overhanging precipices, rise abruptly to a great height. About half a century ago a pious Scotch family, just arrived in this country, came through this gorge. One of the little boys, gazing upon the terrible desolation of the scene, so unlike in its savage and inhuman

aspects anything he had ever seen at home, nestled close to his mother, and asked with bated breath, "Mither, is there a God here?"

Yet the Pepacton is a placid current, especially in its upper portions, where my youth fell; but all its tributaries are swift mountain brooks fed by springs the best in the world. It drains a high pastoral country lifted into long, round-backed hills and rugged, wooded ranges by the subsiding impulse of the Catskill range of mountains, and famous for its superior dairy and other farm products. It is many long years since, with the restlessness of youth, I broke away from the old ties amid those hills; but my heart has always been there, and why should I not come back and name one of my books for the old stream?

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PEPACTON

PEPACTON

I

PEPACTON: A SUMMER VOYAGE

WHEN one summer day I bethought me of a voyage down the east or Pepacton branch of the Delaware, I seemed to want some excuse for the start, some send-off, some preparation, to give the enterprise genesis and head. This I found in building my own boat. It was a happy thought. How else should I have got under way, how else should I have raised the breeze? The boat-building warmed the blood; it made the germ take; it whetted my appetite for the voyage. There is nothing like serving an apprenticeship to fortune, like earning the right to your tools. In most enterprises the temptation is always to begin too far along; we want to start where somebody else leaves off. Go back to the stump, and see what an impetus you get. Those fishermen who wind their own flies before they go a-fishing, — how they bring in the trout; and those hunters who run their own bullets or make their own cartridges, — the game is already mortgaged to them.

When my boat was finished — and it was a very simple affair — I was as eager as a boy to be off; I feared the river would all run by before I could wet her bottom in it. This enthusiasm begat great expectations of the trip. I should surely surprise Nature and win some new secrets from her. I should glide down noiselessly upon her and see what all those willow screens and baffling curves concealed. As a fisherman and pedestrian I had been able to come at the stream only at certain points: now the most private and secluded retreats of the nymph would be opened to me; every bend and eddy, every cove hedged in by swamps or passage walled in by high alders, would be at the beck of my paddle.

Whom shall one take with him when he goes a-courting Nature? This is always a vital question. There are persons who will stand between you and that which you seek: they obtrude themselves; they monopolize your attention; they blunt your sense of the shy, half-revealed intelligences about you. I want for companion a dog or a boy, or a person who has the virtues of dogs and boys, — transparency, good-nature, curiosity, open sense, and a nameless quality that is akin to trees and growths and the inarticulate forces of nature. With him you are alone, and yet have company; you are free; you feel no disturbing element; the influences of nature stream through him and around him; he

is a good conductor of the subtle fluid. The quality or qualification I refer to belongs to most persons who spend their lives in the open air, — to soldiers, hunters, fishers, laborers, and to artists and poets of the right sort. How full of it, to choose an illustrious example, was such a man as Walter Scott!

But no such person came in answer to my prayer, so I set out alone.

It was fit that I put my boat into the water at Arkville, but it may seem a little incongruous that I should launch her into Dry Brook; yet Dry Brook is here a fine large trout stream, and I soon found its waters were wet enough for all practical purposes. The Delaware is only one mile distant, and I chose this as the easiest road from the station to it. A young farmer helped me carry the boat to the water, but did not stay to see me off; only some calves feeding alongshore witnessed my embarkation. It would have been a godsend to boys, but there were no boys about. I stuck on a rift before I had gone ten yards, and saw with misgiving the paint transferred from the bottom of my little scow to the tops of the stones thus early in the journey. But I was soon making fair headway, and taking trout for my dinner as I floated along. My first mishap was when I broke the second joint of my rod on a bass, and the first serious impediment to my progress was when I encountered the trunk of a prostrate elm bridging the stream within

a few inches of the surface. My rod mended and the elm cleared, I anticipated better sailing when I should reach the Delaware itself; but I found on this day and on subsequent days that the Delaware has a way of dividing up that is very embarrassing to the navigator. It is a stream of many minds: its waters cannot long agree to go all in the same channel, and whichever branch I took I was pretty sure to wish I had taken one of the others. I was constantly sticking on rifts, where I would have to dismount, or running full tilt into willow banks, where I would lose my hat or endanger my fishing-tackle. On the whole, the result of my first day's voyaging was not encouraging. I made barely eight miles, and my ardor was a good deal dampened, to say nothing about my clothing. In mid-afternoon I went to a well-to-do-looking farmhouse and got some milk, which I am certain the thrifty housewife skimmed, for its blueness infected my spirits, and I went into camp that night more than half persuaded to abandon the enterprise in the morning. The loneliness of the river, too, unlike that of the fields and woods, to which I was more accustomed, oppressed me. In the woods, things are close to you, and you touch them and seem to interchange something with them; but upon the river, even though it be a narrow and shallow one like this, you are more isolated, farther removed from the soil and its attractions, and an easier prey to the

unsocial demons. The long, unpeopled vistas ahead; the still, dark eddies; the endless monotone and soliloquy of the stream; the unheeding rocks basking like monsters along the shore, half out of the water, half in; a solitary heron starting up here and there, as you rounded some point, and flapping disconsolately ahead till lost to view, or standing like a gaunt spectre on the umbrageous side of the mountain, his motionless form revealed against the dark green as you passed; the trees and willows and alders that hemmed you in on either side, and hid the fields and the farmhouses and the road that ran near by, — these things and others aided the skimmed milk to cast a gloom over my spirits that argued ill for the success of my undertaking. Those rubber boots, too, that parboiled my feet and were clogs of lead about them, — whose spirits are elastic enough to endure them? A malediction upon the head of him who invented them! Take your old shoes, that will let the water in and let it out again, rather than stand knee-deep all day in these extinguishers.

I escaped from the river, that first night, and took to the woods, and profited by the change. In the woods I was at home again, and the bed of hemlock boughs salved my spirits. A cold spring run came down off the mountain, and beside it, underneath birches and hemlocks, I improvised my hearthstone. In sleeping on the ground it is a

great advantage to have a back-log; it braces and supports you, and it is a bedfellow that will not grumble when, in the middle of the night, you crowd sharply up against it. It serves to keep in the warmth, also. A heavy stone or other *point de résistance* at your feet is also a help. Or, better still, scoop out a little place in the earth, a few inches deep, so as to admit your body from your hips to your shoulders; you thus get an equal bearing the whole length of you. I am told the Western hunters and guides do this. On the same principle, the sand makes a good bed, and the snow. You make a mould in which you fit nicely. My berth that night was between two logs that the bark-peelers had stripped ten or more years before. As they had left the bark there, and as hemlock bark makes excellent fuel, I had more reasons than one to be grateful to them.

In the morning I felt much refreshed, and as if the night had tided me over the bar that threatened to stay my progress. If I can steer clear of skimmed milk, I said, I shall now finish the voyage of fifty miles to Hancock with increasing pleasure.

When one breaks camp in the morning, he turns back again and again to see what he has left. Surely, he feels, he has forgotten something; what is it? But it is only his own sad thoughts and musings he has left, the fragment of his life he has lived there. Where he hung his coat on the tree, where he slept

on the boughs, where he made his coffee or broiled his trout over the coals, where he drank again and again at the little brown pool in the spring run, where he looked long and long up into the whispering branches overhead, he has left what he cannot bring away with him, — the flame and the ashes of himself.

Of certain game-birds it is thought that at times they have the power of withholding their scent; no hint or particle of themselves goes out upon the air. I think there are persons whose spiritual pores are always sealed up, and I presume they have the best time of it. Their hearts never radiate into the void; they do not yearn and sympathize without return; they do not leave themselves by the wayside as the sheep leaves her wool upon the brambles and thorns.

This branch of the Delaware, so far as I could learn, had never before been descended by a white man in a boat. Rafts of pine and hemlock timber are run down on the spring and fall freshets, but of pleasure-seekers in boats I appeared to be the first. Hence my advent was a surprise to most creatures in the water and out. I surprised the cattle in the field, and those ruminating leg-deep in the water turned their heads at my approach, swallowed their unfinished cuds, and scampered off as if they had seen a spectre. I surprised the fish on their spawning-beds and feeding-grounds; they scattered, as my shadow glided down upon them, like chickens

when a hawk appears. I surprised an ancient fisherman seated on a spit of gravelly beach, with his back upstream, and leisurely angling in a deep, still eddy, and mumbling to himself. As I slid into the circle of his vision his grip on the pole relaxed, his jaw dropped, and he was too bewildered to reply to my salutation for some moments. As I turned a bend in the river I looked back, and saw him hastening away with great precipitation. I presume he had angled there for forty years without having his privacy thus intruded upon. I surprised hawks and herons and kingfishers. I came suddenly upon muskrats, and raced with them down the rifts, they having no time to take to their holes. At one point, as I rounded an elbow in the stream, a black eagle sprang from the top of a dead tree, and flapped hurriedly away. A kingbird gave chase, and disappeared for some moments in the gulf between the great wings of the eagle, and I imagined him seated upon his back delivering his puny blows upon the royal bird. I interrupted two or three minks fishing and hunting alongshore. They would dart under the bank when they saw me, then presently thrust out their sharp, weasel-like noses, to see if the danger was imminent. At one point, in a little cove behind the willows, I surprised some schoolgirls, with skirts amazingly abbreviated, wading and playing in the water. And as much surprised as any, I am sure, was that hard-worked-

looking housewife, when I came up from under the bank in front of her house, and with pail in hand appeared at her door and asked for milk, taking the precaution to intimate that I had no objection to the yellow scum that is supposed to rise on a fresh article of that kind.

"What kind of milk do you want?"

"The best you have. Give me two quarts of it," I replied.

"What do you want to do with it?" with an anxious tone, as if I might want to blow up something or burn her barns with it.

"Oh, drink it," I answered, as if I frequently put milk to that use.

"Well, I suppose I can get you some;" and she presently reappeared with swimming pail, with those little yellow flakes floating about upon it that one likes to see.

I passed several low dams the second day, but had no trouble. I dismounted and stood upon the apron, and the boat, with plenty of line, came over as lightly as a chip, and swung around in the eddy below like a steed that knows its master. In the afternoon, while slowly drifting down a long eddy, the moist southwest wind brought me the welcome odor of strawberries, and running ashore by a meadow, a short distance below, I was soon parting the daisies and filling my cup with the dead-ripe fruit. Berries, be they red, blue, or black, seem like

a special providence to the camper-out; they are luxuries he has not counted on, and I prized these accordingly. Later in the day it threatened rain, and I drew up to shore under the shelter of some thick overhanging hemlocks, and proceeded to eat my berries and milk, glad of an excuse not to delay my lunch longer. While tarrying here I heard young voices upstream, and looking in that direction saw two boys coming down the rapids on rude floats. They were racing along at a lively pace, each with a pole in his hand, dexterously avoiding the rocks and the breakers, and schooling themselves thus early in the duties and perils of the raftsmen. As they saw me one observed to the other, —

"There is the man we saw go by when we were building our floats. If we had known he was coming so far, maybe we could have got him to give us a ride."

They drew near, guided their crafts to shore beside me, and tied up, their poles answering for hawsers. They proved to be Johnny and Denny Dwire, aged ten and twelve. They were friendly boys, and though not a bit bashful were not a bit impertinent. And Johnny, who did the most of the talking, had such a sweet, musical voice; it was like a bird's. It seems Denny had run away, a day or two before, to his uncle's, five miles above, and Johnny had been after him, and was bringing his prisoner home on a float; and it was hard to tell

which was enjoying the fun most, the captor or the captured.

"Why did you run away?" said I to Denny.

"Oh, 'cause," replied he, with an air which said plainly, "The reasons are too numerous to mention."

"Boys, you know, will do so, sometimes," said Johnny, and he smiled upon his brother in a way that made me think they had a very good understanding upon the subject.

They could both swim, yet their floats looked very perilous, — three pieces of old plank or slabs, with two cross-pieces and a fragment of a board for a rider, and made without nails or withes.

"In some places," said Johnny, "one plank was here and another off there, but we managed, somehow, to keep atop of them."

"Let's leave our floats here, and ride with him the rest of the way," said one to the other.

"All right; may we, mister?"

I assented, and we were soon afloat again. How they enjoyed the passage; how smooth it was; how the boat glided along; how quickly she felt the paddle! They admired her much; they praised my steersmanship; they praised my fish-pole and all my fixings down to my hateful rubber boots. When we stuck on the rifts, as we did several times, they leaped out quickly, with their bare feet and legs, and pushed us off.

"I think," said Johnny, "if you keep her straight

and let her have her own way, she will find the deepest water. Don't you, Denny?"

"I think she will," replied Denny; and I found the boys were pretty nearly right.

I tried them on a point of natural history. I had observed, coming along, a great many dead eels lying on the bottom of the river, that I supposed had died from spear wounds. "No," said Johnny, "they are lamper eels. They die as soon as they have built their nests and laid their eggs."

"Are you sure?"

"That's what they all say, and I know they are lampers."

So I fished one up out of the deep water with my paddle-blade and examined it; and sure enough it was a lamprey. There was the row of holes along its head, and its ugly suction mouth. I had noticed their nests, too, all along, where the water in the pools shallowed to a few feet and began to hurry toward the rifts: they were low mounds of small stones, as if a bushel or more of large pebbles had been dumped upon the river bottom; occasionally they were so near the surface as to make a big ripple. The eel attaches itself to the stones by its mouth, and thus moves them at will. An old fisherman told me that a strong man could not pull a large lamprey loose from a rock to which it had attached itself. It fastens to its prey in this way, and sucks the life out. A friend of mine says he

once saw in the St. Lawrence a pike as long as his arm with a lamprey eel attached to him. The fish was nearly dead and was quite white, the eel had so sucked out his blood and substance. The fish, when seized, darts against rocks and stones, and tries in vain to rub the eel off, then succumbs to the sucker.

"The lampers do not all die," said Denny, "because they do not all spawn;" and I observed that the dead ones were all of one size and doubtless of the same age.

The lamprey is the octopus, the devil-fish, of these waters, and there is, perhaps, no tragedy enacted here that equals that of one of these vampires slowly sucking the life out of a bass or a trout.

My boys went to school part of the time. Did they have a good teacher?

"Good enough for me," said Johnny.

"Good enough for me," echoed Denny.

Just below Bark-a-boom — the name is worth keeping — they left me. I was loath to part with them; their musical voices and their thorough good-fellowship had been very acceptable. With a little persuasion, I think they would have left their home and humble fortunes, and gone a-roving with me.

About four o'clock the warm, vapor-laden south-west wind brought forth the expected thunder-shower. I saw the storm rapidly developing behind the mountains in my front. Presently I came in sight of a long covered wooden bridge that spanned

the river about a mile ahead, and I put my paddle into the water with all my force to reach this cover before the storm. It was neck and neck most of the way. The storm had the wind, and I had it — in my teeth. The bridge was at Shavertown, and it was by a close shave that I got under it before the rain was upon me. How it poured and rattled and whipped in around the abutment of the bridge to reach me! I looked out well satisfied upon the foaming water, upon the wet, unpainted houses and barns of the Shavertowners, and upon the trees,

"Caught and cuffed by the gale."

Another traveler — the spotted-winged nighthawk — was also roughly used by the storm. He faced it bravely, and beat and beat, but was unable to stem it, or even hold his own; gradually he drifted back, till he was lost to sight in the wet obscurity. The water in the river rose an inch while I waited, about three quarters of an hour. Only one man, I reckon, saw me in Shavertown, and he came and gossiped with me from the bank above when the storm had abated.

The second night I stopped at the sign of the elm-tree. The woods were too wet, and I concluded to make my boat my bed. A superb elm, on a smooth grassy plain a few feet from the water's edge, looked hospitable in the twilight, and I drew my boat up beneath it. I hung my clothes on the

jagged edges of its rough bark, and went to bed with the moon, "in her third quarter," peeping under the branches upon me. I had been reading Stevenson's amusing "Travels with a Donkey," and the lines he pretends to quote from an old play kept running in my head: —

> 'The bed was made, the room was fit,
> By punctual eve the stars were lit;
> The air was sweet, the water ran;
> No need was there for maid or man,
> When we put up, my ass and I,
> At God's green caravanserai."

But the stately elm played me a trick: it slyly and at long intervals let great drops of water down upon me, now with a sharp smack upon my rubber coat; then with a heavy thud upon the seat in the bow or stern of my boat; then plump into my upturned ear, or upon my uncovered arm, or with a ring into my tin cup, or with a splash into my coffee-pail that stood at my side full of water from a spring I had just passed. After two hours' trial I found dropping off to sleep, under such circumstances, was out of the question; so I sprang up, in no very amiable mood toward my host, and drew my boat clean from under the elm. I had refreshing slumber thenceforth, and the birds were astir in the morning long before I was.

There is one way, at least, in which the denud-

ing the country of its forests has lessened the rainfall: in certain conditions of the atmosphere every tree is a great condenser of moisture, as I had just observed in the case of the old elm; little showers are generated in their branches, and in the aggregate the amount of water precipitated in this way is considerable. Of a foggy summer morning one may see little puddles of water standing on the stones beneath maple-trees, along the street; and in winter, when there is a sudden change from cold to warm, with fog, the water fairly runs down the trunks of the trees, and streams from their naked branches. The temperature of the tree is so much below that of the atmosphere in such cases that the condensation is very rapid. In lieu of these arboreal rains we have the dew upon the grass, but it is doubtful if the grass ever drips as does a tree.

The birds, I say, were astir in the morning before I was, and some of them were more wakeful through the night, unless they sing in their dreams. At this season one may hear at intervals numerous bird voices during the night. The whip-poor-will was piping when I lay down, and I still heard one when I woke up after midnight. I heard the song sparrow and the kingbird also, like watchers calling the hour, and several times I heard the cuckoo. Indeed, I am convinced that our cuckoo is to a considerable extent a night bird, and that he moves about freely from tree to tree. His peculiar gut-

tural note, now here, now there, may be heard almost any summer night, in any part of the country, and occasionally his better known cuckoo call. He is a great recluse by day, but seems to wander abroad freely by night.

The birds do indeed begin with the day. The farmer who is in the field at work while he can yet see stars catches their first matin hymns. In the longest June days the robin strikes up about half-past three o'clock, and is quickly followed by the song sparrow, the oriole, the catbird, the wren, the wood thrush, and all the rest of the tuneful choir. Along the Potomac I have heard the Virginia cardinal whistle so loudly and persistently in the tree-tops above, that sleeping after four o'clock was out of the question. Just before the sun is up, there is a marked lull, during which, I imagine, the birds are at breakfast. While building their nest, it is very early in the morning that they put in their big strokes; the back of their day's work is broken before you have begun yours.

A lady once asked me if there was any individuality among the birds, or if those of the same kind were as near alike as two peas. I was obliged to answer that to the eye those of the same species *were* as near alike as two peas, but that in their songs there were often marks of originality. Caged or domesticated birds develop notes and traits of their own, and among the more familiar orchard and

garden birds one may notice the same tendency. I observe a great variety of songs, and even qualities of voice, among the orioles and among the song sparrows. On this trip my ear was especially attracted to some striking and original sparrow songs. At one point I was half afraid I had let pass an opportunity to identify a new warbler, but finally concluded it was a song sparrow. On another occasion I used to hear day after day a sparrow that appeared to have some organic defect in its voice: part of its song was scarcely above a whisper, as if the bird was suffering from a very bad cold. I have heard a bobolink and a hermit thrush with similar defects of voice. I have heard a robin with a part of the whistle of the quail in his song. It was out of time and out of tune, but the robin seemed insensible of the incongruity, and sang as loudly and as joyously as any of his mates. A catbird will sometimes show a special genius for mimicry, and I have known one to suggest very plainly some notes of the bobolink.

There are numerous long covered bridges spanning the Delaware, and under some of these I saw the cliff swallow at home, the nests being fastened to the under sides of the timbers, — as it were, suspended from the ceiling instead of being planted upon the shelving or perpendicular side, as is usual with them. To have laid the foundation, indeed, to have sprung the vault downward and finished it

successfully, must have required special engineering skill. I had never before seen or heard of these nests being so placed. But birds are quick to adjust their needs to the exigencies of any case. Not long before, I had seen in a deserted house, on the head of the Rondout, the chimney swallows entering the chamber through a stove-pipe hole in the roof, and gluing their nests to the sides of the rafters, like the barn swallows.

I was now, on the third day, well down in the wilds of Colchester, with a current that made between two and three miles an hour, — just a summer idler's pace. The atmosphere of the river had improved much since the first day, — was, indeed, without taint, — and the water was sweet and good. There were farmhouses at intervals of a mile or so; but the amount of tillable land in the river valley or on the adjacent mountains was very small. Occasionally there would be forty or fifty acres of flat, usually in grass or corn, with a thrifty-looking farmhouse. One could see how surely the land made the house and its surrounding; good land bearing good buildings, and poor land poor.

In mid-forenoon I reached the long placid eddy at Downsville, and here again fell in with two boys. They were out paddling about in a boat when I drew near, and they evidently regarded me in the light of a rare prize which fortune had wafted them.

"Ain't you glad we come, Benny?" I heard one

of them observe to the other, as they were conducting me to the best place to land. They were bright, good boys, off the same piece as my acquaintances of the day before, and about the same ages, — differing only in being village boys. With what curiosity they looked me over! Where had I come from; where was I going; how long had I been on the way; who built my boat; was I a carpenter, to build such a neat craft, etc.? They never had seen such a traveler before. Had I had no mishaps? And then they bethought them of the dangerous passes that awaited me, and in good faith began to warn and advise me. They had heard the tales of raftsmen, and had conceived a vivid idea of the perils of the river below, gauging their notions of it from the spring and fall freshets tossing about the heavy and cumbrous rafts. There was a whirlpool, a rock eddy, and a binocle within a mile. I might be caught in the binocle, or engulfed in the whirlpool, or smashed up in the eddy. But I felt much reassured when they told me I had already passed several whirlpools and rock eddies; but that terrible binocle, — what was that? I had never heard of such a monster. Oh, it was a still, miry place at the head of a big eddy. The current might carry me up there, but I could easily get out again; the rafts did. But there was another place I must beware of, where two eddies faced each other; raftsmen were sometimes swept off there by the oars

and drowned. And when I came to rock eddy, which I would know, because the river divided there (a part of the water being afraid to risk the eddy, I suppose), I must go ashore and survey the pass; but in any case it would be prudent to keep to the left. I might stick on the rift, but that was nothing to being wrecked upon those rocks. The boys were quite in earnest, and I told them I would walk up to the village and post some letters to my friends before I braved all these dangers. So they marched me up the street, pointing out to their chums what they had found.

"Going way to Phil — What place is that near where the river goes into the sea?"

"Philadelphia?"

"Yes; thinks he may go way there. Won't he have fun?"

The boys escorted me about the town, then back to the river, and got in their boat and came down to the bend, where they could see me go through the whirlpool and pass the binocle (I am not sure about the orthography of the word, but I suppose it means a double, or a sort of mock eddy). I looked back as I shot over the rough current beside a gentle vortex, and saw them watching me with great interest. Rock eddy, also, was quite harmless, and I passed it without any preliminary survey.

I nooned at Sodom, and found good milk in a humble cottage. In the afternoon I was amused by

a great blue heron that kept flying up in advance of me. Every mile or so, as I rounded some point, I would come unexpectedly upon him, till finally he grew disgusted with my silent pursuit, and took a long turn to the left up along the side of the mountain, and passed back up the river, uttering a hoarse, low note.

The wind still boded rain, and about four o'clock, announced by deep-toned thunder and portentous clouds, it began to charge down the mountain-side in front of me. I ran ashore, covered my traps, and took my way up through an orchard to a quaint little farmhouse. But there was not a soul about, outside or in, that I could find, though the door was unfastened; so I went into an open shed with the hens, and lounged upon some straw, while the unloosed floods came down. It was better than boating or fishing. Indeed, there are few summer pleasures to be placed before that of reclining at ease directly under a sloping roof, after toil or travel in the hot sun, and looking out into the rain-drenched air and fields. It is such a vital yet soothing spectacle. We sympathize with the earth. We know how good a bath is, and the unspeakable deliciousness of water to a parched tongue. The office of the sunshine is slow, subtle, occult, unsuspected; but when the clouds do their work, the benefaction is so palpable and copious, so direct and wholesale, that all creatures take note of it, and for

the most part rejoice in it. It is a completion, a consummation, a paying of a debt with a royal hand; the measure is heaped and overflowing. It was the simple vapor of water that the clouds borrowed of the earth; now they pay back more than water: the drops are charged with electricity and with the gases of the air, and have new solvent powers. Then, how the slate is sponged off, and left all clean and new again!

In the shed where I was sheltered were many relics and odds and ends of the farm. In juxtaposition with two of the most stalwart wagon or truck wheels I ever looked upon was a cradle of ancient and peculiar make, — an aristocratic cradle, with high-turned posts and an elaborately carved and moulded body, that was suspended upon rods and swung from the top. How I should have liked to hear its history and the story of the lives it had rocked, as the rain sang and the boughs tossed without! Above it was the cradle of a phœbe-bird saddled upon a stick that ran behind the rafter; its occupants had not flown, and its story was easy to read.

Soon after the first shock of the storm was over, and before I could see breaking sky, the birds tuned up with new ardor, — the robin, the indigo-bird, the purple finch, the song sparrow, and in the meadow below the bobolink. The cockerel near me followed suit, and repeated his refrain till my

meditations were so disturbed that I was compelled to eject him from the cover, albeit he had the best right there. But he crowed his defiance with drooping tail from the yard in front. I, too, had mentally crowed over the good fortune of the shower; but before I closed my eyes that night my crest was a good deal fallen, and I could have wished the friendly elements had not squared their accounts quite so readily and uproariously.

The one shower did not exhaust the supply a bit; Nature's hand was full of trumps yet, — yea, and her sleeve too. I stopped at a trout brook, which came down out of the mountains on the right, and took a few trout for my supper; but its current was too roily from the shower for fly-fishing. Another farmhouse attracted me, but there was no one at home; so I picked a quart of strawberries in the meadow in front, not minding the wet grass, and about six o'clock, thinking another storm that had been threatening on my right had miscarried, I pushed off, and went floating down into the deepening gloom of the river valley. The mountains, densely wooded from base to summit, shut in the view on every hand. They cut in from the right and from the left, one ahead of the other, matching like the teeth of an enormous trap; the river was caught and bent, but not long detained, by them. Presently I saw the rain creeping slowly over them in my rear, for the wind had changed; but I appre-

hended nothing but a moderate sundown drizzle, such as we often get from the tail end of a shower, and drew up in the eddy of a big rock under an overhanging tree till it should have passed. But it did not pass; it thickened and deepened, and reached a steady pour by the time I had calculated the sun would be gilding the mountain-tops. I had wrapped my rubber coat about my blankets and groceries, and bared my back to the storm. In sullen silence I saw the night settling down and the rain increasing; my roof-tree gave way, and every leaf poured its accumulated drops upon me. There were streams and splashes where before there had been little more than a mist. I was getting well soaked and uncomplimentary in my remarks on the weather. A saucy catbird, near by, flirted and squealed very plainly, "There! there! What did I tell you! what did I tell you! Pretty pickle! pretty pickle! pretty pickle to be in!" But I had been in worse pickles, though if the water had been salt, my pickling had been pretty thorough. Seeing the wind was in the northeast, and that the weather had fairly stolen a march on me, I let go my hold of the tree, and paddled rapidly to the opposite shore, which was low and pebbly, drew my boat up on a little peninsula, turned her over upon a spot which I cleared of its coarser stone, propped up one end with the seat, and crept beneath. I would now test the virtues of my craft as a roof,

and I found she was without flaw, though she was pretty narrow. The tension of her timber was such that the rain upon her bottom made a low, musical hum.

Crouched on my blankets and boughs, — for I had gathered a good supply of the latter before the rain overtook me, — and dry only about my middle, I placidly took life as it came. A great blue heron flew by, and let off something like ironical horse laughter. Before it became dark I proceeded to eat my supper, — my berries, but not my trout. What a fuss we make about the "hulls" upon strawberries! We are hypercritical; we may yet be glad to dine off the hulls alone. Some people see something to pick and carp at in every good that comes to them; I was thankful that I had the berries, and resolutely ignored their little scalloped ruffles, which I found pleased the eye and did not disturb the palate.

When bedtime arrived, I found undressing a little awkward, my berth was so low; there was plenty of room in the aisle, and the other passengers were nowhere to be seen, but I did not venture out. It rained nearly all night, but the train made good speed, and reached the land of daybreak nearly on time. The water in the river had crept up during the night to within a few inches of my boat, but I rolled over and took another nap, all the same. Then I arose, had a delicious bath in the sweet.

swift-running current, and turned my thoughts toward breakfast. The making of the coffee was the only serious problem. With everything soaked and a fine rain still falling, how shall one build a fire? I made my way to a little island above in quest of driftwood. Before I had found the wood I chanced upon another patch of delicious wild strawberries, and took an appetizer of them out of hand. Presently I picked up a yellow birch stick the size of my arm. The wood was decayed, but the bark was perfect. I broke it in two, punched out the rotten wood, and had the bark intact. The fatty or resinous substance in this bark preserves it, and makes it excellent kindling. With some seasoned twigs and a scrap of paper I soon had a fire going that answered my every purpose. More berries were picked while the coffee was brewing, and the breakfast was a success.

The camper-out often finds himself in what seems a distressing predicament to people seated in their snug, well-ordered houses; but there is often a real satisfaction when things come to their worst, — a satisfaction in seeing what a small matter it is, after all; that one is really neither sugar nor salt, to be afraid of the wet; and that life is just as well worth living beneath a scow or a dug-out as beneath the highest and broadest roof in Christendom.

By ten o'clock it became necessary to move, on account of the rise of the water, and as the rain had

abated, I picked up and continued my journey. Before long, however, the rain increased again, and I took refuge in a barn. The snug, tree-embowered farmhouse looked very inviting, just across the road from the barn; but as no one was about, and no faces appeared at the window that I might judge of the inmates, I contented myself with the hospitality the barn offered, filling my pockets with some dry birch shavings I found there where the farmer had made an ox-yoke, against the needs of the next kindling.

After an hour's detention I was off again. I stopped at Baxter's Brook, which flows hard by the classic hamlet of Harvard, and tried for trout, but with poor success, as I did not think it worth while to go far upstream.

At several points I saw rafts of hemlock lumber tied to the shore, ready to take advantage of the first freshet. Rafting is an important industry for a hundred miles or more along the Delaware. The lumbermen sometimes take their families or friends, and have a jollification all the way to Trenton or to Philadelphia. In some places the speed is very great, almost equaling that of an express train. The passage of such places as Cochecton Falls and "Foul Rift" is attended with no little danger. The raft is guided by two immense oars, one before and one behind. I frequently saw these huge implements in the driftwood alongshore, suggesting

some colossal race of men. The raftsmen have names of their own. From the upper Delaware, where I had set in, small rafts are run down which they call "colts." They come frisking down at a lively pace. At Hancock they usually couple two rafts together, when I suppose they have a span of colts; or do two colts make one horse? Some parts of the framework of the raft they call "grubs;" much depends upon these grubs. The lumbermen were and are a hardy, virile race. The Hon. Charles Knapp, of Deposit, now eighty-three years of age, but with the look and step of a man of sixty, told me he had stood nearly all one December day in the water to his waist, reconstructing his raft, which had gone to pieces on the head of an island. Mr. Knapp had passed the first half of his life in Colchester and Hancock, and, although no sportsman, had once taken part in a great bear hunt there. The bear was an enormous one, and was hard pressed by a gang of men and dogs. Their muskets and assaults upon the beast with clubs had made no impression. Mr. Knapp saw where the bear was coming, and he thought he would show them how easy it was to dispatch a bear with a club, if you only knew where to strike. He had seen how quickly the largest hog would wilt beneath a slight blow across the "small of the back." So, armed with an immense handspike, he took up a position by a large rock that the bear must pass. On she came, panting and nearly

exhausted, and at the right moment down came the club with great force upon the small of her back. "If a fly had alighted upon her," said Mr. Knapp, "I think she would have paid just as much attention to it as she did to me."

Early in the afternoon I encountered another boy, Henry Ingersoll, who was so surprised by my sudden and unwonted appearance that he did not know east from west. "Which way is west?" I inquired, to see if my own head was straight on the subject.

"That way," he said, indicating east within a few degrees.

"You are wrong," I replied. "Where does the sun rise?"

"There," he said, pointing almost in the direction he had pointed before.

"But does not the sun rise in the east here as well as elsewhere?" I rejoined.

"Well, they call that west, anyhow."

But Henry's needle was subjected to a disturbing influence just then. His house was near the river, and he was its sole guardian and keeper for the time; his father had gone up to the next neighbor's (it was Sunday), and his sister had gone with the schoolmistress down the road to get black birch. He came out in the road, with wide eyes, to view me as I passed, when I drew rein, and demanded the points of the compass, as above. Then I shook

my sooty pail at him and asked for milk. Yes, I could have some milk, but I would have to wait till his sister came back; after he had recovered a little, he concluded he could get it. He came for my pail, and then his boyish curiosity appeared. My story interested him immensely. He had seen twelve summers, but he had been only four miles from home up and down the river: he had been down to the East Branch, and he had been up to Trout Brook. He took a pecuniary interest in me. What did my pole cost? What my rubber coat, and what my revolver? The latter he must take in his hand; he had never seen such a thing to shoot with before in *his* life, etc. He thought I might make the trip cheaper and easier by stage and by the cars. He went to school: there were six scholars in summer, one or two more in winter. The population is not crowded in the town of Hancock, certainly, and never will be. The people live close to the bone, as Thoreau would say, or rather close to the stump. Many years ago the young men there resolved upon having a ball. They concluded not to go to a hotel, on account of the expense, and so chose a private house. There was a man in the neighborhood who could play the fife; he offered to furnish the music for seventy-five cents. But this was deemed too much, so one of the party agreed to whistle. History does not tell how many beaux there were bent upon this reckless enterprise, but

there were three girls. For refreshments they bought a couple of gallons of whiskey and a few pounds of sugar. When the spree was over, and the expenses were reckoned up, there was a shilling — a York shilling — apiece to pay. Some of the revelers were dissatisfied with this charge, and intimated that the managers had not counted themselves in, but taxed the whole expense upon the rest of the party.

As I moved on, I saw Henry's sister and the schoolmistress picking their way along the muddy road near the river's bank. One of them saw me, and, dropping her skirts, said to the other (I could read the motions), "See that man!" The other lowered her flounces, and looked up and down the road, then glanced over into the field, and lastly out upon the river. They paused and had a good look at me, though I could see that their impulse to run away, like that of a frightened deer, was strong.

At the East Branch the Big Beaver Kill joins the Delaware, almost doubling its volume. Here I struck the railroad, the forlorn Midland, and here another set of men and manners cropped out, — what may be called the railroad conglomerate overlying this mountain freestone.

"Where did you steal that boat?" and "What you running away for?" greeted me from a hand-car that went by.

I paused for some time and watched the fish

hawks, or ospreys, of which there were nearly a dozen sailing about above the junction of the two streams, squealing and diving, and occasionally striking a fish on the rifts. I am convinced that the fish hawk sometimes feeds on the wing. I saw him do it on this and on another occasion. He raises himself by a peculiar motion, and brings his head and his talons together, and apparently takes a bite of a fish. While doing this his flight presents a sharply undulating line; at the crest of each rise the morsel is taken.

In a long, deep eddy under the west shore I came upon a brood of wild ducks, the hooded merganser. The young were about half grown, but of course entirely destitute of plumage. They started off at great speed, kicking the water into foam behind them, the mother duck keeping upon their flank and rear. Near the outlet of the pool I saw them go ashore, and I expected they would conceal themselves in the woods; but as I drew near the place they came out, and I saw by their motions they were going to make a rush by me upstream. At a signal from the old one, on they came, and passed within a few feet of me. It was almost incredible, the speed they made. Their pink feet were like swiftly revolving wheels placed a little to the rear; their breasts just skimmed the surface, and the water was beaten into spray behind them. They had no need of wings; even the

mother bird did not use hers; a steamboat could hardly have kept up with them. I dropped my paddle and cheered. They kept the race up for a long distance, and I saw them making a fresh spirt as I entered upon the rift and dropped quickly out of sight. I next disturbed an eagle in his meditations upon a dead treetop, and a cat sprang out of some weeds near the foot of the tree. Was he watching for puss, while she was watching for some smaller prey?

I passed Partridge Island — which is or used to be the name of a post-office — unwittingly, and encamped for the night on an island near Hawk's Point. I slept in my boat on the beach, and in the morning my locks were literally wet with the dews of the night, and my blankets too; so I waited for the sun to dry them. As I was gathering driftwood for a fire, a voice came over from the shadows of the east shore: "Seems to me you lay abed pretty late!"

"I call this early," I rejoined, glancing at the sun.

"Wall, it may be airly in the forenoon, but it ain't very airly in the mornin';" a distinction I was forced to admit. Before I had reëmbarked some cows came down to the shore, and I watched them ford the river to the island. They did it with great ease and precision. I was told they will sometimes, during high water, swim over to the islands, striking in well upstream, and swimming diago-

nally across. At one point some cattle had crossed the river, and evidently got into mischief, for a large dog rushed them down the bank into the current, and worried them all the way over, part of the time swimming and part of the time leaping very high, as a dog will in deep snow, coming down with a great splash. The cattle were shrouded with spray as they ran, and altogether it was a novel picture.

My voyage ended that forenoon at Hancock, and was crowned by a few idyllic days with some friends in their cottage in the woods by Lake Oquaga, a body of crystal water on the hills near Deposit, and a haven as peaceful and perfect as voyager ever came to port in.

II

SPRINGS

"I 'll show thee the best springs." — TEMPEST.

A MAN who came back to the place of his birth in the East, after an absence of a quarter of a century in the West, said the one thing he most desired to see about the old homestead was the spring. ' This, at least, he would find unchanged. Here his lost youth would come back to him. The faces of his father and mother he might not look upon; but the face of the spring, that had mirrored theirs and his own so oft, he fondly imagined would beam on him as of old. I can well believe that, in that all but springless country in which he had cast his lot, the vision, the remembrance, of the fountain that flowed by his father's doorway, so prodigal of its precious gifts, had awakened in him the keenest longings and regrets.

Did he not remember the path, also? for next to the spring itself is the path that leads to it. Indeed, of all foot-paths, the spring-path is the most suggestive.

This is a path with something at the end of it, and the best of good fortune awaits him who walks

therein. It is a well-worn path, and, though generally up or down a hill, it is the easiest of all paths to travel: we forget our fatigue when going to the spring, and we have lost it when we turn to come away. See with what alacrity the laborer hastens along it, all sweaty from the fields; see the boy or girl running with pitcher or pail; see the welcome shade of the spreading tree that presides over its marvelous birth!

In the woods or on the mountain-side, follow the path and you are pretty sure to find a spring; all creatures are going that way night and day, and they make a path.

A spring is always a vital point in the landscape; it is indeed the eye of the fields, and how often, too, it has a noble eyebrow in the shape of an overhanging bank or ledge! Or else its site is marked by some tree which the pioneer has wisely left standing, and which sheds a coolness and freshness that make the water more sweet. In the shade of this tree the harvesters sit and eat their lunch, and look out upon the quivering air of the fields. Here the Sunday saunterer stops and lounges with his book, and bathes his hands and face in the cool fountain. Hither the strawberry-girl comes with her basket and pauses a moment in the green shade. The plowman leaves his plow, and in long strides approaches the life-renewing spot, while his team, that cannot follow, look wistfully after him. Here

The Asa Gray Spring

the cattle love to pass the heat of the day, and hither come the birds to wash themselves and make their toilets.

Indeed, a spring is always an oasis in the desert of the fields. It is a creative and generative centre. It attracts all things to itself, — the grasses, the mosses, the flowers, the wild plants, the great trees. The walker finds it out, the camping party seek it, the pioneer builds his hut or his house near it. When the settler or squatter has found a good spring, he has found a good place to begin life; he has found the fountain-head of much that he is seeking in this world. The chances are that he has found a southern and eastern exposure, for it is a fact that water does not readily flow north; the valleys mostly open the other way; and it is quite certain he has found a measure of salubrity, for where water flows fever abideth not. The spring, too, keeps him to the right belt, out of the low valley, and off the top of the hill.

When John Winthrop decided upon the site where now stands the city of Boston, as a proper place for a settlement, he was chiefly attracted by a large and excellent spring of water that flowed there. The infant city was born of this fountain.

There seems a kind of perpetual springtime about the place where water issues from the ground, — a freshness and a greenness that are ever renewed. The grass never fades, the ground is never parched

or frozen. There is warmth there in winter and coolness in summer. The temperature is equalized. In March or April the spring runs are a bright emerald while the surrounding fields are yet brown and sere, and in fall they are yet green when the first snow covers them. Thus every fountain by the roadside is a fountain of youth and of life. This is what the old fables finally mean.

An intermittent spring is shallow; it has no deep root, and is like an inconstant friend. But a perennial spring, one whose ways are appointed, whose foundation is established, what a profound and beautiful symbol! In fact, there is no more large and universal symbol in nature than the spring, if there is any other capable of such wide and various applications.

What preparation seems to have been made for it in the conformation of the ground, even in the deep underlying geological strata! Vast rocks and ledges are piled for it, or cleft asunder that it may find a way. Sometimes it is a trickling thread of silver down the sides of a seamed and scarred precipice. Then again the stratified rock is like a just-lifted lid, from beneath which the water issues. Or it slips noiselessly out of a deep dimple in the fields. Occasionally it bubbles up in the valley, as if forced up by the surrounding hills. Many springs, no doubt, find an outlet in the beds of the large rivers and lakes, and are unknown to all but

the fishes. They probably find them out and make much of them. The trout certainly do. Find a place in the creek where a spring issues, or where it flows into it from a near bank, and you have found a most likely place for trout. They deposit their spawn there in the fall, warm their noses there in winter, and cool themselves there in summer. I have seen the patriarchs of the tribe of an old and much-fished stream, seven or eight enormous fellows, congregated in such a place. The boys found it out, and went with a bag and bagged them all. In another place a trio of large trout, that knew and despised all the arts of the fishermen, took up their abode in a deep, dark hole in the edge of the wood, that had a spring flowing into a shallow part of it. In midsummer they were wont to come out from their safe retreat and bask in the spring, their immense bodies but a few inches under water. A youth, who had many times vainly sounded their dark hiding-place with his hook, happening to come along with his rifle one day, shot the three, one after another, killing them by the concussion of the bullet on the water immediately over them.

The ocean itself is known to possess springs, copious ones, in many places the fresh water rising up through the heavier salt as through a rock, and affording supplies to vessels at the surface. Off the coast of Florida many of these submarine springs have been discovered, the outlet, probably, of the

streams and rivers that disappear in the "sinks" of that State.

It is a pleasant conception, that of the unscientific folk, that the springs are fed directly by the sea, or that the earth is full of veins or arteries that connect with the great reservoir of waters. But when science turns the conception over and makes the connection in the air, — disclosing the great water-main in the clouds, and that the mighty engine of the hydraulic system of nature is the sun, — the fact becomes even more poetical, does it not? This is one of the many cases where science, instead of curtailing the imagination, makes new and large demands upon it.

The hills are great sponges that do not and cannot hold the water that is precipitated upon them, but let it filter through at the bottom. This is the way the sea has robbed the earth of its various salts, its potash, its lime, its magnesia, and many other mineral elements. It is found that the oldest upheavals, those sections of the country that have been longest exposed to the leeching and washing of the rains, are poorest in those substances that go to the making of the osseous framework of man and of the animals. Wheat does not grow well there, and the men born and reared there are apt to have brittle bones. An important part of those men went downstream ages before they were born. The water of such sections is now soft and free

from mineral substances, but not more wholesome on that account.

The gigantic springs of the country that have not been caught in any of the great natural basins are mostly confined to the limestone region of the Middle and Southern States, — the valley of Virginia and its continuation and deflections into Kentucky, Tennessee, northern Alabama, Georgia, and Florida. Through this belt are found the great caves and the subterranean rivers. The waters have here worked like enormous moles, and have honeycombed the foundations of the earth. They have great highways beneath the hills. Water charged with carbonic acid gas has a very sharp tooth and a powerful digestion, and no limestone rock can long resist it. Sherman's soldiers tell of a monster spring in northern Alabama, — a river leaping full-grown from the bosom of the earth; and of another at the bottom of a large, deep pit in the rocks, that continues its way under ground.

There are many springs in Florida of this character, large underground streams that have breathing-holes, as it were, here and there. In some places the water rises and fills the bottoms of deep bowl-shaped depressions; in other localities it is reached through round natural well-holes; a bucket is let down by a rope, and if it becomes detached is quickly swept away by the current. Some of the Florida springs are perhaps the largest in the

world, affording room and depth enough for steamboats to move and turn in them. Green Cove Spring is said to be like a waterfall reversed; a cataract rushing upward through a transparent liquid instead of leaping downward through the air. There are one or two of these enormous springs also in northern Mississippi, — springs so large that it seems as if the whole continent must nurse them.

The Valley of the Shenandoah is remarkable for its large springs. The town of Winchester, a town of several thousand inhabitants, is abundantly supplied with water from a single spring that issues on higher ground near by. Several other springs in the vicinity afford rare mill-power. At Harrisonburg, a county town farther up the valley, I was attracted by a low ornamental dome resting upon a circle of columns, on the edge of the square that contained the court-house, and was surprised to find that it gave shelter to an immense spring. This spring was also capable of watering the town or several towns; stone steps led down to it at the bottom of a large stone basin. There was a pretty constant string of pails to and from it. Aristotle called certain springs of his country "cements of society," because the young people so frequently met there and sang and conversed; and I have little doubt this spring is of like social importance.

There is a famous spring at San Antonio, Texas, which is described by that excellent traveler, Fred-

erick Law Olmsted. "The whole river," he says, "gushes up in one sparkling burst from the earth, with all the accessories of smaller springs, — moss, pebbles, foliage, seclusion, etc. Its effect is overpowering. It is beyond your possible conception of a spring."

Of like copiousness and splendor is the Caledonia spring, or springs, in western New York. They give birth to a white-pebbled, transparent stream, several rods wide and two or three feet deep, that flows eighty barrels of water per second, and is alive with trout. The trout are fat and gamy even in winter.

The largest spring in England, called the Well of St. Winifred, at Holywell, flows less than three barrels per second. I recently went many miles out of my way to see the famous trout spring in Warren County, New Jersey. This spring flows about one thousand gallons of water per minute, which has a uniform temperature of fifty degrees winter and summer. It is near the Musconetcong Creek, which looks as if it were made up of similar springs. On the parched and sultry summer day upon which my visit fell, it was well worth walking many miles just to see such a volume of water issue from the ground. I felt with the boy Petrarch, when he first beheld a famous spring, that "were I master of such a fountain I would prefer it to the finest of cities." A large oak leans down over the spring

and affords an abundance of shade. The water does not bubble up, but comes straight out with great speed, like a courier with important news, and as if its course underground had been a direct and an easy one for a long distance. Springs that issue in this way have a sort of vertebra, a ridgy and spine-like centre that suggests the gripe and push there is in this element.

What would one not give for such a spring in his back yard, or front yard, or anywhere near his house, or in any of his fields? One would be tempted to move his house to it, if the spring could not be brought to the house. Its mere poetic value and suggestion would be worth all the art and ornament to be had. It would irrigate one's heart and character as well as his acres. Then one might have a Naiad Queen to do his churning and to saw his wood; then one might "see his chore done by the gods themselves," as Emerson says, or by the nymphs, which is just as well.

I know a homestead, situated on one of the picturesque branch valleys of the Housatonic, that has such a spring flowing by the foundation walls of the house, and not a little of the strong overmastering local attachment that holds the owner there is born of that, his native spring. He could not, if he would, break from it. He says that when he looks down into it he has a feeling that he is an amphibious animal that has somehow got stranded.

A long, gentle flight of stone steps leads from the back porch down to it under the branches of a lofty elm. It wells up through the white sand and gravel as through a sieve, and fills the broad space that has been arranged for it so gently and imperceptibly that one does not suspect its copiousness until he has seen the overflow. It turns no wheel, yet it lends a pliant hand to many of the affairs of that household. It is a refrigerator in summer and a frost-proof envelope in winter, and a fountain of delights the year round. Trout come up from the Weebutook River and dwell there and become domesticated, and take lumps of butter from your hand, or rake the ends of your fingers if you tempt them. It is a kind of sparkling and ever-washed larder. Where are the berries? where is the butter, the milk, the steak, the melon? In the spring. It preserves, it ventilates, it cleanses. It is a board of health and a general purveyor. It is equally for use and for pleasure. Nothing degrades it, and nothing can enhance its beauty. It is picture and parable, and an instrument of music. It is servant and divinity in one. The milk of forty cows is cooled in it, and never a drop gets into the cans, though they are plunged to the brim. It is as insensible to drought and rain as to heat and cold. It is planted upon the sand, and yet it abideth like a house upon a rock. It evidently has some relation to a little brook that flows down through a deep

notch in the hills half a mile distant, because on one occasion, when the brook was being ditched or dammed, the spring showed great perturbation. Every nymph in it was filled with sudden alarm and kicked up a commotion.

In some sections of the country, when there is no spring near the house, the farmer, with much labor and pains, brings one from some uplying field or wood. Pine and poplar logs are bored and laid in a trench, and the spring practically moved to the desired spot. The ancient Persians had a law that whoever thus conveyed the water of a spring to a spot not watered before should enjoy many immunities under the state, not granted to others.

Hilly and mountainous countries do not always abound in good springs. When the stratum is vertical, or has too great a dip, the water is not collected in large veins, but is rather held as it falls, and oozes out slowly at the surface over the top of the rock. On this account one of the most famous grass and dairy sections of New York is poorly supplied with springs. Every creek starts in a bog or marsh, and good water can be had only by excavating.

What a charm lurks about those springs that are found near the tops of mountains, so small that they get lost amid the rocks and débris and never reach the valley, and so cold that they make the throat ache! Every hunter and mountain-climber can tell you of such, usually on the last rise before

the summit is cleared. It is eminently the hunter's spring. I do not know whether or not the foxes and other wild creatures lap at it, but their pursuers are quite apt to pause there to take breath or to eat their lunch. The mountain-climbers in summer hail it with a shout. It is always a surprise, and raises the spirits of the dullest. Then it seems to be born of wildness and remoteness, and to savor of some special benefit or good fortune. A spring in the valley is an idyl, but a spring on the mountain is a genuine lyrical touch. It imparts a mild thrill; and if one were to call any springs "miracles," as the natives of Cashmere are said to regard their fountains, it would be such as these.

What secret attraction draws one in his summer walk to touch at all the springs on his route, and to pause a moment at each, as if what he was in quest of would be likely to turn up there? I can seldom pass a spring without doing homage to it. It is the shrine at which I oftenest worship. If I find one fouled with leaves or trodden full by cattle, I take as much pleasure in cleaning it out as a devotee in setting up the broken image of his saint. Though I chance not to want to drink there, I like to behold a clear fountain, and I may want to drink next time I pass, or some traveler, or heifer, or milch cow may. Leaves have a strange fatality for the spring. They come from afar to get into it. In a grove or in the woods they drift into it and

cover it up like snow. Late in November, in clearing one out, I brought forth a frog from his hibernacle in the leaves at the bottom. He was very black, and he rushed about in a bewildered manner like one suddenly aroused from his sleep.

There is no place more suitable for statuary than about a spring or fountain, especially in parks or improved fields. Here one seems to expect to see figures and bending forms. "Where a spring rises or a river flows," says Seneca, "there should we build altars and offer sacrifices."

I have spoken of the hunter's spring. The traveler's spring is a little cup or saucer shaped fountain set in the bank by the roadside. The harvester's spring is beneath a widespreading tree in the fields. The lover's spring is down a lane under a hill. There is a good screen of rocks and bushes. The hermit's spring is on the margin of a lake in the woods. The fisherman's spring is by the river. The miner finds his spring in the bowels of the mountain. The soldier's spring is wherever he can fill his canteen. The spring where schoolboys go to fill the pail is a long way up or down a hill, and has just been roiled by a frog or muskrat, and the boys have to wait till it settles. There is yet the milkman's spring that never dries, the water of which is milky and opaque. Sometimes it flows out of a chalk cliff. This last is a hard spring: all the others are soft.

There is another side to this subject, — the marvelous, not to say the miraculous; and if I were to advert to all the curious or infernal springs that are described by travelers or others, — the sulphur springs, the mud springs, the sour springs, the soap springs, the soda springs, the blowing springs, the spouting springs, the boiling springs not one mile from Tophet, the springs that rise and fall with the tide; the spring spoken of by Vitruvius, that gave unwonted loudness to the voice; the spring that Plutarch tells about, that had something of the flavor of wine, because it was supposed that Bacchus had been washed in it immediately after his birth; the spring that Herodotus describes, — wise man and credulous boy that he was, — called the "Fountain of the Sun," which was warm at dawn, cold at noon, and hot at midnight; the springs at San Filippo, Italy, that have built up a calcareous wall over a mile long and several hundred feet thick; the renowned springs of Cashmere, that are believed by the people to be the source of the comeliness of their women, — if I were to follow up my subject in this direction, I say, it would lead me into deeper and more troubled waters than I am in quest of at present.

Pliny, in a letter to one of his friends, gives the following account of a spring that flowed near his Laurentine villa: —

"There is a spring which rises in a neighboring

mountain, and running among the rocks is received into a little banqueting-room, artificially formed for that purpose, from whence, after being detained a short time, it falls into the Larian Lake. The nature of this spring is extremely curious: it ebbs and flows regularly three times a day. The increase and decrease are plainly visible, and exceedingly interesting to observe. You sit down by the side of the fountain, and while you are taking a repast and drinking its water, which is exceedingly cool, you see it gradually rise and fall. If you place a ring or anything else at the bottom when it is dry, the water creeps gradually up, first gently washing, finally covering it entirely, and then, little by little, subsides again. If you wait long enough, you may see it thus alternately advance and recede three successive times."

Pliny suggests four or five explanations of this phenomenon, but is probably wide of the mark in all but the fourth one: —

"Or is there rather a certain reservoir that contains these waters in the bowels of the earth, and, while it is recruiting its discharges, the stream in consequence flows more slowly and in less quantity, but, when it has collected its due measure, runs on again in its usual strength and fullness."

There are several of these intermitting springs in different parts of the world, and they are per-

haps all to be explained on the principle of the siphon.

In the Idyls of Theocritus there are frequent allusions to springs. It was at a spring — and a mountain spring at that — that Castor and Pollux encountered the plug-ugly Amycus: —

"And spying on a mountain a wild wood of vast size, they found under a smooth cliff an ever-flowing spring, filled with pure water, and the pebbles beneath seemed like crystal or silver from the depths; and near there had grown tall pines, and poplars, and plane-trees, and cypresses with leafy tops, and fragrant flowers, pleasant work for hairy bees," etc.

Or the story of Hylas, the auburn-haired boy, who went to the spring to fetch water for supper for Hercules and stanch Telamon, and was seized by the enamored nymphs and drawn in. The spring was evidently a marsh or meadow spring: it was in a "low-lying spot, and around it grew many rushes, and the pale blue swallow-wort, and green maidenhair, and blooming parsley, and couch grass stretching through the marshes." As Hercules was tramping through the bog, club in hand, and shouting "Hylas!" to the full depth of his throat, he heard a thin voice come from the water, — it was Hylas responding, and Hylas, in the shape of the little frog, has been calling from our marsh springs ever since.

The characteristic flavor and suggestion of these

Idyls is like pure spring-water. This is, perhaps, why the modern reader is apt to be disappointed in them when he takes them up for the first time. They appear minor and literal and tasteless, as does most ancient poetry; but it is mainly because we have got to the fountain-head, and have come in contact with a mind that has been but little shaped by artificial indoor influences. The stream of literature is now much fuller and broader than it was in ancient times, with currents and counter-currents, and diverse and curious phases; but the primitive sources seem far behind us, and for the refreshment of simple spring-water in art we must still go back to Greek poetry.

III

AN IDYL OF THE HONEY-BEE

THERE is no creature with which man has surrounded himself that seems so much like a product of civilization, so much like the result of development on special lines and in special fields, as the honey-bee. Indeed, a colony of bees, with their neatness and love of order, their division of labor, their public-spiritedness, their thrift, their complex economies, and their inordinate love of gain, seems as far removed from a condition of rude nature as does a walled city or a cathedral town. Our native bee, on the other hand, the "burly, dozing humblebee," affects one more like the rude, untutored savage. He has learned nothing from experience. He lives from hand to mouth. He luxuriates in time of plenty, and he starves in time of scarcity. He lives in a rude nest, or in a hole in the ground, and in small communities; he builds a few deep cells or sacks in which he stores a little honey and bee-bread for his young, but as a worker in wax he is of the most primitive and awkward. The Indian regarded the honey-bee as an ill omen. She was the white man's fly. In fact, she was the

epitome of the white man himself. She has the white man's craftiness, his industry, his architectural skill, his neatness and love of system, his foresight; and, above all, his eager, miserly habits. The honey-bee's great ambition is to be rich, to lay up great stores, to possess the sweet of every flower that blooms. She is more than provident. Enough will not satisfy her; she must have all she can get by hook or by crook. She comes from the oldest country, Asia, and thrives best in the most fertile and long-settled lands.

Yet the fact remains that the honey-bee is essentially a wild creature, and never has been and cannot be thoroughly domesticated. Its proper home is the woods, and thither every new swarm counts on going; and thither many do go in spite of the care and watchfulness of the bee-keeper. If the woods in any given locality are deficient in trees with suitable cavities, the bees resort to all sorts of makeshifts; they go into chimneys, into barns and outhouses, under stones, into rocks, etc. Several chimneys in my locality with disused flues are taken possession of by colonies of bees nearly every season. One day, while bee-hunting, I developed a line that went toward a farmhouse where I had reason to believe no bees were kept. I followed it up and questioned the farmer about his bees. He said he kept no bees, but that a swarm had taken possession of his chimney, and another

had gone under the clapboards in the gable end of his house. He had taken a large lot of honey out of both places the year before. Another farmer told me that one day his family had seen a number of bees examining a knothole in the side of his house; the next day, as they were sitting down to dinner, their attention was attracted by a loud humming noise, when they discovered a swarm of bees settling upon the side of the house and pouring into the knothole. In subsequent years other swarms came to the same place.

Apparently, every swarm of bees, before it leaves the parent hive, sends out exploring parties to look up the future home. The woods and groves are searched through and through, and no doubt the privacy of many a squirrel and many a wood-mouse is intruded upon. What cozy nooks and retreats they do spy out, so much more attractive than the painted hive in the garden, so much cooler in summer and so much warmer in winter!

The bee is in the main an honest citizen: she prefers legitimate to illegitimate business; she is never an outlaw until her proper sources of supply fail; she will not touch honey as long as honey-yielding flowers can be found; she always prefers to go to the fountain-head, and dislikes to take her sweets at second hand. But in the fall, after the flowers have failed, she can be tempted. The bee-hunter takes advantage of this fact; he betrays her

with a little honey. He wants to steal her stores, and he first encourages her to steal his, then follows the thief home with her booty. This is the whole trick of the bee-hunter. The bees never suspect his game, else by taking a circuitous route they could easily baffle him. But the honey-bee has absolutely no wit or cunning outside of her special gifts as a gatherer and storer of honey. She is a simple-minded creature, and can be imposed upon by any novice. Yet it is not every novice that can find a bee-tree. The sportsman may track his game to its retreat by the aid of his dog, but in hunting the honey-bee one must be his own dog, and track his game through an element in which it leaves no trail. It is a task for a sharp, quick eye, and may test the resources of the best woodcraft. One autumn, when I devoted much time to this pursuit, as the best means of getting at nature and the open-air exhilaration, my eye became so trained that bees were nearly as easy to it as birds. I saw and heard bees wherever I went. One day, standing on a street corner in a great city, I saw above the trucks and the traffic a line of bees carrying off sweets from some grocery or confectionery shop.

One looks upon the woods with a new interest when he suspects they hold a colony of bees. What a pleasing secret it is, — a tree with a heart of comb honey, a decayed oak or maple with a bit of Sicily or Mount Hymettus stowed away in its trunk or

branches; secret chambers where lies hidden the wealth of ten thousand little freebooters, great nuggets and wedges of precious ore gathered with risk and labor from every field and wood about!

But if you would know the delights of bee-hunting, and how many sweets such a trip yields besides honey, come with me some bright, warm, late September or early October day. It is the golden season of the year, and any errand or pursuit that takes us abroad upon the hills or by the painted woods and along the amber-colored streams at such a time is enough. So, with haversacks filled with grapes and peaches and apples and a bottle of milk, — for we shall not be home to dinner, — and armed with a compass, a hatchet, a pail, and a box with a piece of comb honey neatly fitted into it, — any box the size of your hand with a lid will do nearly as well as the elaborate and ingenious contrivance of the regular bee-hunter, — we sally forth. Our course at first lies along the highway under great chestnut-trees whose nuts are just dropping, then through an orchard and across a little creek, thence gently rising through a long series of cultivated fields toward some high uplying land behind which rises a rugged wooded ridge or mountain, the most sightly point in all this section. Behind this ridge for several miles the country is wild, wooded, and rocky, and is no doubt the home of many swarms of wild bees. What a gleeful uproar the robins,

cedar-birds, high-holes, and cow blackbirds make amid the black cherry-trees as we pass along! The raccoons, too, have been here after black cherries, and we see their marks at various points. Several crows are walking about a newly sowed wheat-field we pass through, and we pause to note their graceful movements and glossy coats. I have seen no bird walk the ground with just the same air the crow does. It is not exactly pride; there is no strut or swagger in it, though perhaps just a little condescension; it is the contented, complaisant, and self-possessed gait of a lord over his domains. All these acres are mine, he says, and all these crops; men plow and sow for me, and I stay here or go there, and find life sweet and good wherever I am. The hawk looks awkward and out of place on the ground; the game-birds hurry and skulk; but the crow is at home, and treads the earth as if there were none to molest or make him afraid.

The crows we have always with us, but it is not every day or every season that one sees an eagle. Hence I must preserve the memory of one I saw the last day I went bee-hunting. As I was laboring up the side of a mountain at the head of a valley, the noble bird sprang from the top of a dry tree above me and came sailing directly over my head. I saw him bend his eye down upon me, and I could hear the low hum of his plumage as if the web of every quill in his great wings vibrated in

his strong, level flight. I watched him as long as my eye could hold him. When he was fairly clear of the mountain, he began that sweeping spiral movement in which he climbs the sky. Up and up he went, without once breaking his majestic poise, till he appeared to sight some far-off alien geography, when he bent his course thitherward and gradually vanished in the blue depths. The eagle is a bird of large ideas; he embraces long distances; the continent is his home. I never look upon one without emotion; I follow him with my eye as long as I can. I think of Canada, of the Great Lakes, of the Rocky Mountains, of the wild and sounding seacoast. The waters are his, and the woods and the inaccessible cliffs. He pierces behind the veil of the storm, and his joy is height and depth and vast spaces.

We go out of our way to touch at a spring run in the edge of the woods, and are lucky to find a single scarlet lobelia lingering there. It seems almost to light up the gloom with its intense bit of color. Beside a ditch in a field beyond, we find the great blue lobelia, and near it, amid the weeds and wild grasses and purple asters, the most beautiful of our fall flowers, the fringed gentian. What a rare and delicate, almost aristocratic look the gentian has amid its coarse, unkempt surroundings! It does not lure the bee, but it lures and holds every passing human eye. If we strike through the corner of

yonder woods, where the ground is moistened by hidden springs, and where there is a little opening amid the trees, we shall find the closed gentian, a rare flower in this locality. I had walked this way many times before I chanced upon its retreat, and then I was following a line of bees. I lost the bees, but I got the gentians. How curious this flower looks with its deep blue petals folded together so tightly, — a bud and yet a blossom! It is the nun among our wild flowers, — a form closely veiled and cloaked. The buccaneer bumblebee sometimes tries to rifle it of its sweets. I have seen the blossom with the bee entombed in it. He had forced his way into the virgin corolla as if determined to know its secret, but he had never returned with the knowledge he had gained.

After a refreshing walk of a couple of miles we reach a point where we will make our first trial, — a high stone wall that runs parallel with the wooded ridge referred to, and separated from it by a broad field. There are bees at work there on that golden-rod, and it requires but little manœuvring to sweep one into our box. Almost any other creature rudely and suddenly arrested in its career, and clapped into a cage in this way, would show great confusion and alarm. The bee is alarmed for a moment, but the bee has a passion stronger than its love of life or fear of death, namely, desire for honey, not simply to eat, but to carry home as booty. "Such rage of

honey in their bosom beats," says Virgil. It is quick to catch the scent of honey in the box, and as quick to fall to filling itself. We now set the box down upon the wall and gently remove the cover. The bee is head and shoulders in one of the half-filled cells, and is oblivious to everything else about it. Come rack, come ruin, it will die at work. We step back a few paces, and sit down upon the ground so as to bring the box against the blue sky as a background. In two or three minutes the bee is seen rising slowly and heavily from the box. It seems loath to leave so much honey behind, and it marks the place well. It mounts aloft in a rapidly increasing spiral, surveying the near and minute objects first, then the larger and more distant, till, having circled above the spot five or six times and taken all its bearings, it darts away for home. It is a good eye that holds fast to the bee till it is fairly off. Sometimes one's head will swim following it, and often one's eyes are put out by the sun. This bee gradually drifts down the hill, then strikes off toward a farmhouse half a mile away where I know bees are kept. Then we try another and another, and the third bee, much to our satisfaction, goes straight toward the woods. We can see the brown speck against the darker background for many yards. The regular bee-hunter professes to be able to tell a wild bee from a tame one by the color, the former, he says, being lighter. But there is no dif-

ference; they are alike in color and in manner. Young bees are lighter than old, and that is all there is of it. If a bee lived many years in the woods, it would doubtless come to have some distinguishing marks, but the life of a bee is only a few months at the farthest, and no change is wrought in this brief time.

Our bees are all soon back, and more with them, for we have touched the box here and there with the cork of a bottle of anise oil, and this fragrant and pungent oil will attract bees half a mile or more. When no flowers can be found, this is the quickest way to obtain a bee.

It is a singular fact that when the bee first finds the hunter's box, its first feeling is one of anger; it is as mad as a hornet; its tone changes, it sounds its shrill war trumpet and darts to and fro, and gives vent to its rage and indignation in no uncertain manner. It seems to scent foul play at once. It says, "Here is robbery; here is the spoil of some hive, maybe my own," and its blood is up. But its ruling passion soon comes to the surface, its avarice gets the better of its indignation, and it seems to say, "Well, I had better take possession of this and carry it home." So after many feints and approaches and dartings off with a loud angry hum as if it would none of it, the bee settles down and fills itself.

It does not entirely cool off and get soberly to

work till it has made two or three trips home with its booty. When other bees come, even if all from the same swarm, they quarrel and dispute over the box, and clip and dart at each other like bantam cocks. Apparently the ill feeling which the sight of the honey awakens is not one of jealousy or rivalry, but wrath.

A bee will usually make three or four trips from the hunter's box before it brings back a companion. I suspect the bee does not tell its fellows what it has found, but that they smell out the secret; it doubtless bears some evidence with it upon its feet or proboscis that it has been upon honeycomb and not upon flowers, and its companions take the hint and follow, arriving always many seconds behind. Then the quantity and quality of the booty would also betray it. No doubt, also, there are plenty of gossips about a hive that note and tell everything. "Oh, did you see that? Peggy Mel came in a few moments ago in great haste, and one of the upstairs packers says she was loaded till she groaned with apple-blossom honey, which she deposited, and then rushed off again like mad. Apple-blossom honey in October! Fee, fi, fo, fum! I smell something! Let's after."

In about half an hour we have three well-defined lines of bees established, — two to farmhouses and one to the woods, and our box is being rapidly depleted of its honey. About every fourth bee goes

to the woods, and now that they have learned the way thoroughly, they do not make the long preliminary whirl above the box, but start directly from it. The woods are rough and dense and the hill steep, and we do not like to follow the line of bees until we have tried at least to settle the problem as to the distance they go into the woods, — whether the tree is on this side of the ridge or into the depth of the forest on the other side. So we shut up the box when it is full of bees and carry it about three hundred yards along the wall from which we are operating. When liberated, the bees, as they always will in such cases, go off in the same directions they have been going; they do not seem to know that they have been moved. But other bees have followed our scent, and it is not many minutes before a second line to the woods is established. This is called cross-lining the bees. The new line makes a sharp angle with the other line, and we know at once that the tree is only a few rods in the woods. The two lines we have established form two sides of a triangle, of which the wall is the base; at the apex of the triangle, or where the two lines meet in the woods, we are sure to find the tree. We quickly follow up these lines, and where they cross each other on the side of the hill we scan every tree closely. I pause at the foot of an oak and examine a hole near the root; now the bees are in this tree and their entrance

is on the upper side near the ground not two feet from the hole I peer into, and yet so quiet and secret is their going and coming that I fail to discover them and pass on up the hill. Failing in this direction, I return to the oak again, and then perceive the bees going out in a small crack in the tree. The bees do not know they are found out and that the game is in our hands, and are as oblivious of our presence as if we were ants or crickets. The indications are that the swarm is a small one, and the store of honey trifling. In "taking up" a bee-tree it is usual first to kill or stupefy the bees with the fumes of burning sulphur or with tobacco smoke. But this course is impracticable on the present occasion, so we boldly and ruthlessly assault the tree with an axe we have procured. At the first blow the bees set up a loud buzzing, but we have no mercy, and the side of the cavity is soon cut away and the interior with its white-yellow mass of comb honey is exposed, and not a bee strikes a blow in defense of its all. This may seem singular, but it has nearly always been my experience. When a swarm of bees are thus rudely assaulted with an axe, they evidently think the end of the world has come, and, like true misers as they are, each one seizes as much of the treasure as it can hold; in other words, they all fall to and gorge themselves with honey, and calmly await the issue. While in this condition they make no defense, and will not sting unless

taken hold of. In fact, they are as harmless as flies. Bees are always to be managed with boldness and decision. Any halfway measures, any timid poking about, any feeble attempts to reach their honey, are sure to be quickly resented. The popular notion that bees have a special antipathy toward certain persons and a liking for certain others has only this fact at the bottom of it: they will sting a person who is afraid of them and goes skulking and dodging about, and they will not sting a person who faces them boldly and has no dread of them. They are like dogs. The way to disarm a vicious dog is to show him you do not fear him; it is his turn to be afraid then. I never had any dread of bees, and am seldom stung by them. I have climbed up into a large chestnut that contained a swarm in one of its cavities and chopped them out with an axe, being obliged at times to pause and brush the bewildered bees from my hands and face, and not been stung once. I have chopped a swarm out of an apple-tree in June, and taken out the cards of honey and arranged them in a hive, and then dipped out the bees with a dipper, and taken the whole home with me in pretty good condition, with scarcely any opposition on the part of the bees. In reaching your hand into the cavity to detach and remove the comb you are pretty sure to get stung, for when you touch the "business end" of a bee, it will sting even though its head be off. But the bee carries

the antidote to its own poison. The best remedy for bee sting is honey, and when your hands are besmeared with honey, as they are sure to be on such occasions, the wound is scarcely more painful than the prick of a pin. Assault your bee-tree, then, boldly with your axe, and you will find that when the honey is exposed every bee has surrendered, and the whole swarm is cowering in helpless bewilderment and terror. Our tree yields only a few pounds of honey, not enough to have lasted the swarm till January, but no matter: we have the less burden to carry.

In the afternoon we go nearly half a mile farther along the ridge to a corn-field that lies immediately in front of the highest point of the mountain. The view is superb; the ripe autumn landscape rolls away to the east, cut through by the great placid river; in the extreme north the wall of the Catskills stands out clear and strong, while in the south the mountains of the Highlands bound the view. The day is warm, and the bees are very busy there in that neglected corner of the field, rich in asters, fleabane, and goldenrod. The corn has been cut, and upon a stout but a few rods from the woods, which here drop quickly down from the precipitous heights, we set up our bee-box, touched again with the pungent oil. In a few moments a bee has found it; she comes up to leeward, following the scent. On leaving the box, she goes straight toward the

woods. More bees quickly come, and it is not long before the line is well established. Now we have recourse to the same tactics we employed before, and move along the ridge to another field to get our cross-line. But the bees still go in almost the same direction they did from the corn stout. The tree is then either on the top of the mountain or on the other or west side of it. We hesitate to make the plunge into the woods and seek to scale those precipices, for the eye can plainly see what is before us. As the afternoon sun gets lower, the bees are seen with wonderful distinctness. They fly toward and under the sun, and are in a strong light, while the near woods which form the background are in deep shadow. They look like large luminous motes. Their swiftly vibrating, transparent wings surround their bodies with a shining nimbus that makes them visible for a long distance. They seem magnified many times. We see them bridge the little gulf between us and the woods, then rise up over the treetops with their burdens, swerving neither to the right hand nor to the left. It is almost pathetic to see them labor so, climbing the mountain and unwittingly guiding us to their treasures. When the sun gets down so that his direction corresponds exactly with the course of the bees, we make the plunge. It proves even harder climbing than we had anticipated; the mountain is faced by a broken and irregular wall of rock, up which

we pull ourselves slowly and cautiously by main strength. In half an hour, the perspiration streaming from every pore, we reach the summit. The trees here are all small, a second growth, and we are soon convinced the bees are not here. Then down we go on the other side, clambering down the rocky stairways till we reach quite a broad plateau that forms something like the shoulder of the mountain. On the brink of this there are many large hemlocks, and we scan them closely and rap upon them with our axe. But not a bee is seen or heard; we do not seem as near the tree as we were in the fields below; yet, if some divinity would only whisper the fact to us, we are within a few rods of the coveted prize, which is not in one of the large hemlocks or oaks that absorb our attention, but in an old stub or stump not six feet high, and which we have seen and passed several times without giving it a thought. We go farther down the mountain and beat about to the right and left, and get entangled in brush and arrested by precipices, and finally, as the day is nearly spent, give up the search and leave the woods quite baffled, but resolved to return on the morrow. The next day we come back and commence operations in an opening in the woods well down on the side of the mountain where we gave up the search. Our box is soon swarming with the eager bees, and they go back toward the summit we have passed. We follow back and estab-

lish a new line, where the ground will permit; then another and still another, and yet the riddle is not solved. One time we are south of them, then north, then the bees get up through the trees and we cannot tell where they go. But after much searching, and after the mystery seems rather to deepen than to clear up, we chance to pause beside the old stump. A bee comes out of a small opening like that made by ants in decayed wood, rubs its eyes and examines its antennæ, as bees always do before leaving their hive, then takes flight. At the same instant several bees come by us loaded with our honey and settle home with that peculiar low, complacent buzz of the well-filled insect. Here, then, is our idyl, our bit of Virgil and Theocritus, in a decayed stump of a hemlock-tree. We could tear it open with our hands, and a bear would find it an easy prize, and a rich one, too, for we take from it fifty pounds of excellent honey. The bees have been here many years, and have of course sent out swarm after swarm into the wilds. They have protected themselves against the weather and strengthened their shaky habitation by a copious use of wax.

When a bee-tree is thus "taken up" in the middle of the day, of course a good many bees are away from home and have not heard the news. When they return and find the ground flowing with honey, and piles of bleeding combs lying about, they appar-

ently do not recognize the place, and their first instinct is to fall to and fill themselves; this done, their next thought is to carry it home, so they rise up slowly through the branches of the trees till they have attained an altitude that enables them to survey the scene, when they seem to say, "Why, *this* is home," and down they come again; beholding the wreck and ruins once more, they still think there is some mistake, and get up a second or a third time and then drop back pitifully as before. It is the most pathetic sight of all, the surviving and bewildered bees struggling to save a few drops of their wasted treasures.

Presently, if there is another swarm in the woods, robber bees appear. You may know them by their saucy, chiding, devil-may-care hum. It is an ill wind that blows nobody good, and they make the most of the misfortune of their neighbors, and thereby pave the way for their own ruin. The hunter marks their course, and the next day looks them up. On this occasion the day was hot and the honey very fragrant, and a line of bees was soon established south-southwest. Though there was much refuse honey in the old stub, and though little golden rills trickled down the hill from it. and the near branches and saplings were besmeared with it where we wiped our murderous hands, yet not a drop was wasted. It was a feast to which not only honey-bees came, but bumblebees, wasps, hornets

flies, ants. The bumblebees, which at this season are hungry vagrants with no fixed place of abode, would gorge themselves, then creep beneath the bits of empty comb or fragments of bark and pass the night, and renew the feast next day. The bumble-bee is an insect of which the bee-hunter sees much. There are all sorts and sizes of them. They are dull and clumsy compared with the honey-bee. Attracted in the fields by the bee-hunter's box, they will come up the wind on the scent and blunder into it in the most stupid, lubberly fashion.

The honey-bees that licked up our leavings on the old stub belonged to a swarm, as it proved, about half a mile farther down the ridge, and a few days afterward fate overtook them, and their stores in turn became the prey of another swarm in the vicinity, which also tempted Providence and were overwhelmed. The first-mentioned swarm I had lined from several points, and was following up the clew over rocks and through gullies, when I came to where a large hemlock had been felled a few years before, and a swarm taken from a cavity near the top of it; fragments of the old comb were yet to be seen. A few yards away stood another short, squatty hemlock, and I said my bees ought to be there. As I paused near it, I noticed where the tree had been wounded with an axe a couple of feet from the ground many years before. The wound

KINGBIRD

had partially grown over, but there was an opening there that I did not see at the first glance. I was about to pass on when a bee passed me making that peculiar shrill, discordant hum that a bee makes when besmeared with honey. I saw it alight in the partially closed wound and crawl home; then came others and others, little bands and squads of them, heavily freighted with honey from the box. The tree was about twenty inches through and hollow at the butt, or from the axe-mark down. This space the bees had completely filled with honey. With an axe we cut away the outer ring of live wood and exposed the treasure. Despite the utmost care, we wounded the comb so that little rills of the golden liquid issued from the root of the tree and trickled down the hill.

The other bee-tree in the vicinity to which I have referred we found one warm November day in less than half an hour after entering the woods. It also was a hemlock, that stood in a niche in a wall of hoary, moss-covered rocks thirty feet high. The tree hardly reached to the top of the precipice. The bees entered a small hole at the root, which was seven or eight feet from the ground. The position was a striking one. Never did apiary have a finer outlook or more rugged surroundings. A black, wood-embraced lake lay at our feet; the long panorama of the Catskills filled the far distance, and the more broken outlines of the Shawangunk range

filled the rear. On every hand were precipices and a wild confusion of rocks and trees.

The cavity occupied by the bees was about three feet and a half long and eight or ten inches in diameter. With an axe we cut away one side of the tree, and laid bare its curiously wrought heart of honey. It was a most pleasing sight. What winding and devious ways the bees had through their palace! What great masses and blocks of snow-white comb there were! Where it was sealed up, presenting that slightly dented, uneven surface, it looked like some precious ore. When we carried a large pailful of it out of the woods, it seemed still more like ore.

Your native bee-hunter predicates the distance of the tree by the time the bee occupies in making its first trip. But this is no certain guide. You are always safe in calculating that the tree is inside of a mile, and you need not as a rule look for your bee's return under ten minutes. One day I picked up a bee in an opening in the woods and gave it honey, and it made three trips to my box with an interval of about twelve minutes between them; it returned alone each time; the tree, which I afterward found, was about half a mile distant.

In lining bees through the woods, the tactics of the hunter are to pause every twenty or thirty rods, lop away the branches or cut down the trees, and set the bees to work again. If they still go forward,

he goes forward also, and repeats his observations till the tree is found, or till the bees turn and come back upon the trail. Then he knows he has passed the tree, and he retraces his steps to a convenient distance and tries again, and thus quickly reduces the space to be looked over till the swarm is traced home. On one occasion, in a wild rocky wood, where the surface alternated between deep gulfs and chasms filled with thick, heavy growths of timber, and sharp, precipitous, rocky ridges like a tempest-tossed sea, I carried my bees directly under their tree, and set them to work from a high, exposed ledge of rocks not thirty feet distant. One would have expected them under such circumstances to have gone straight home, as there were but few branches intervening, but they did not; they labored up through the trees and attained an altitude above the woods as if they had miles to travel, and thus baffled me for hours. Bees will always do this. They are acquainted with the woods only from the top side, and from the air above; they recognize home only by landmarks here, and in every instance they rise aloft to take their bearings. Think how familiar to them the topography of the forest summits must be, — an umbrageous sea or plain where every mark and point is known.

Another curious fact is that generally you will get track of a bee-tree sooner when you are half a mile from it than when you are only a few yards.

Bees, like us human insects, have little faith in the near at hand; they expect to make their fortune in a distant field, they are lured by the remote and the difficult, and hence overlook the flower and the sweet at their very door. On several occasions I have unwittingly set my box within a few paces of a bee-tree and waited long for bees without getting them, when, on removing to a distant field or opening in the woods, I have got a clew at once.

I have a theory that when bees leave the hive, unless there is some special attraction in some other direction, they generally go against the wind. They would thus have the wind with them when they returned home heavily laden, and with these little navigators the difference is an important one. With a full cargo, a stiff head-wind is a great hindrance, but fresh and empty-handed, they can face it with more ease. Virgil says bees bear gravel-stones as ballast, but their only ballast is their honey-bag. Hence, when I go bee-hunting, I prefer to get to windward of the woods in which the swarm is supposed to have refuge.

Bees, like the milkman, like to be near a spring. They do water their honey, especially in a dry time. The liquid is then of course thicker and sweeter, and will bear diluting. Hence old bee-hunters look for bee-trees along creeks and near spring runs in the woods. I once found a tree a long distance from any water, and the honey had

a peculiar bitter flavor, imparted to it, I was convinced, by rainwater sucked from the decayed and spongy hemlock-tree in which the swarm was found. In cutting into the tree, the north side of it was found to be saturated with water like a spring, which ran out in big drops, and had a bitter flavor. The bees had thus found a spring or a cistern in their own house.

Bees are exposed to many hardships and many dangers. Winds and storms prove as disastrous to them as to other navigators. Black spiders lie in wait for them as do brigands for travelers. One day, as I was looking for a bee amid some golden-rod, I spied one partly concealed under a leaf. Its baskets were full of pollen, and it did not move. On lifting up the leaf I discovered that a hairy spider was ambushed there and had the bee by the throat. The vampire was evidently afraid of the bee's sting, and was holding it by the throat till quite sure of its death. Virgil speaks of the painted lizard, perhaps a species of salamander, as an enemy of the honey-bee. We have no lizard that destroys the bee; but our tree-toad, ambushed among the apple and cherry blossoms, snaps them up wholesale. Quick as lightning that subtle but clammy tongue darts forth, and the unsuspecting bee is gone. Virgil also accuses the titmouse and the woodpecker of preying upon the bees, and our kingbird has been charged with the like crime,

but the latter devours only the drones. The workers are either too small and quick for it or else it dreads their sting.

Virgil, by the way, had little more than a child's knowledge of the honey-bee. There is little fact and much fable in his fourth Georgic. If he had ever kept bees himself, or even visited an apiary, it is hard to see how he could have believed that the bee in its flight abroad carried a gravel-stone for ballast:

"And as when empty barks on billows float,
With sandy ballast sailors trim the boat;
So bees bear gravel-stones, whose poising weight
Steers through the whistling winds their steady flight;"

or that, when two colonies made war upon each other, they issued forth from their hives led by their kings and fought in the air, strewing the ground with the dead and dying: —

"Hard hailstones lie not thicker on the plain,
Nor shaken oaks such show'rs of acorns rain."

It is quite certain he had never been bee-hunting. If he had, we should have had a fifth Georgic. Yet he seems to have known that bees sometimes escaped to the woods: —

"Nor bees are lodged in hives alone, but found
In chambers of their own beneath the ground:
Their vaulted roofs are hung in pumices,
And in the rotten trunks of hollow trees."

AN IDYL OF THE HONEY-BEE

Wild honey is as near like tame as wild bees are like their brothers in the hive. The only difference is, that wild honey is flavored with your adventure, which makes it a little more delectable than the domestic article.

IV

NATURE AND THE POETS

I HAVE said on a former occasion that "the true poet knows more about Nature than the naturalist, because he carries her open secrets in his heart. Eckermann could instruct Goethe in ornithology, but could not Goethe instruct Eckermann in the meaning and mystery of the bird?" But the poets sometimes rely too confidently upon their supposed intuitive knowledge of nature, and grow careless about the accuracy of the details of their pictures. I am not aware that this was ever the case with Goethe; I think it was not, for as a rule, the greater the poet, the more correct and truthful will be his specifications. It is the lesser poets who trip most over their facts. Thus a New England poet speaks of "plucking the apple from the pine," as if the pineapple grew upon the pine-tree. A Western poet sings of the bluebird in a strain in which every feature and characteristic of the bird is lost; not one trait of the bird is faithfully set down. When the robin and the swallow come, he says, the bluebird hies him to some mossy old wood, where, amid the deep seclusion, he pours out his song.

In a poem by a well-known author in one of the popular journals, a hummingbird's nest is shown the reader, and it has *blue* eggs in it. A more cautious poet would have turned to Audubon or Wilson before venturing upon such a statement. But then it was necessary to have a word to rhyme with "view," and what could be easier than to make a white egg "blue"? Again, one of our later poets has evidently confounded the hummingbird with that curious parody upon it, the hawk or sphinx moth, as in his poem upon the subject he has hit off exactly the habits of the moth, or, rather, his creature seems a cross between the moth and the bird, as it has the habits of the one and the plumage of the other. The time to see the hummingbird, he says, is after sunset in the summer gloaming; then it steals forth and hovers over the flowers. Now, the hummingbird is eminently a creature of the sun and of the broad open day, and I have never seen it after sundown, while the moth is rarely seen except at twilight. It is much smaller and less brilliant than the hummingbird; but its flight and motions are so nearly the same that a poet, with his eye in a fine frenzy rolling, might easily mistake one for the other. It is but a small slip in such a poet as poor George Arnold, when he makes the sweet-scented honeysuckle bloom for the bee, for surely the name suggests the bee, though in fact she does not work upon it; but what shall we say

of the Kansas poet, who, in his published volume, claims both the yew and the nightingale for his native State? Or of a Massachusetts poet, who finds the snowdrop and the early primrose blooming along his native streams, with the orchis and the yellow violet, and makes the blackbird conspicuous among New England songsters? Our ordinary yew is not a tree at all, but a low spreading evergreen shrub that one may step over; and as for the nightingale, if they have the mockingbird in Kansas, they can very well do without him. We have several varieties of blackbirds, it is true; but when an American poet speaks in a general way of the blackbird piping or singing in a tree, as he would speak of a robin or a sparrow, the suggestion or reminiscence awakened is always that of the blackbird of English poetry.

> "In days when daisies deck the ground,
> And blackbirds whistle clear,
> With honest joy our hearts will bound
> To see the coming year" —

sings Burns. I suspect that the English reader of even some of Emerson's and Lowell's poems would infer that our blackbird was identical with the British species. I refer to these lines of Emerson: —

> "Where arches green the livelong day
> Echo the blackbirds' roundelay;"

and to these lines from Lowell's "Rosaline:" —

"A blackbird whistling overhead
Thrilled through my brain;"

and again these from "The Fountain of Youth:" —

"'T is a woodland enchanted;
By no sadder spirit
Than blackbirds and thrushes
That whistle to cheer it,
All day in the bushes."

The blackbird of the English poets is like our robin in everything except color. He is familiar, hardy, abundant, thievish, and his habits, manners, and song recall our bird to the life. Our own native blackbirds, the crow blackbird, the rusty grackle, the cowbird, and the red-shouldered starling, are not songsters, even in the latitude allowable to poets; neither are they whistlers, unless we credit them with a "split-whistle," as Thoreau does. The two first named have a sort of musical cackle and gurgle in spring (as at times both our crow and jay have), which is very pleasing, and to which Emerson aptly refers in these lines from "May-Day:" —

"The blackbirds make the maples ring
With social cheer and jubilee" —

but it is not a song. The note of the starling in the trees and alders along the creeks and marshes is better calculated to arrest the attention of the casual observer; but it is far from being a song or a whistle

like that of the European blackbird, or our robin. Its most familiar call is like the word "*bazique*," "*bazique*," but it has a wild musical note which Emerson has embalmed in this line: —

"The redwing flutes his *o-ka-lee*."

Here Emerson discriminates; there is no mistaking his blackbird this time for the European species, though it is true there is nothing fluty or flute-like in the redwing's voice. The flute is mellow, while the "*o-ka-lee*" of the starling is strong and sharply accented. The voice of the thrushes (and our robin and the European blackbird are thrushes) is flute-like. Hence the aptness of this line of Tennyson: —

"The mellow ouzel fluted in the elm," —

the blackbird being the ouzel, or ouzel-cock, as Shakespeare calls him.

In the line which precedes this, Tennyson has stamped the cuckoo: —

"To left and right,
The cuckoo told his name to all the hills."

The cuckoo is a bird that figures largely in English poetry, but he always has an equivocal look in American verse, unless sharply discriminated. We have a cuckoo, but he is a great recluse; and I am sure the poets do not know when he comes or goes, while to make him sing familiarly like the British

species, as I have known at least one of our poets to do, is to come very wide of the mark. Our bird is as solitary and joyless as the most veritable anchorite. He contributes nothing to the melody or the gayety of the season. He is, indeed, known in some sections as the "rain-crow;" but I presume that not one person in ten of those who spend their lives in the country has ever seen or heard him. He is like the showy orchis, or the lady's-slipper, or the shooting star among plants, — a stranger to all but the few; and when an American poet says cuckoo, he must say it with such specifications as to leave no doubt what cuckoo he means, as Lowell does in his "Nightingale in the Study:" —

> "And, hark, the cuckoo, weatherwise,
> Still hiding farther onward, wooes you."

In like manner the primrose is an exotic in American poetry, to say nothing of the snowdrop and the daisy. Its prominence in English poetry can be understood when we remember that the plant is so abundant in England as to be almost a weed, and that it comes early and is very pretty. Cowslip and oxlip are familiar names of varieties of the same plant, and they bear so close a resemblance that it is hard to tell them apart. Hence Tennyson, in "The Talking Oak:" —

> "As cowslip unto oxlip is,
> So seems she to the boy."

Red-winged Blackbird

Our familiar primrose is the evening primrose, — a rank, tall weed that blooms with the mullein in late summer. Its small, yellow, slightly fragrant blossoms open only at night, but remain open during the next day. By cowslip, our poets and writers generally mean the yellow marsh marigold, which belongs to a different family of plants, but which, as a spring token and a pretty flower, is a very good substitute for the cowslip. Our real cowslip, the shooting star, is very rare, and is one of the most beautiful of native flowers. I believe it is not found north of Pennsylvania. I have found it in a single locality in the District of Columbia, and the day is memorable upon which I first saw its cluster of pink flowers, with their recurved petals cleaving the air. I do not know that it has ever been mentioned in poetry.

Another flower, which I suspect our poets see largely through the medium of English literature and invest with borrowed charms, is the violet. The violet is a much more winsome and poetic flower in England than it is in this country, for the reason that it comes very early and is sweet-scented; our common violet is not among the earliest flowers, and it is odorless. It affects sunny slopes, like the English flower; yet Shakespeare never could have made the allusion to it which he makes to his own species in these lines: —

"That strain again! it had a dying fall:
Oh! it came o'er my ear like the sweet south
That breathes upon a bank of violets,
Stealing and giving odor,"

or lauded it as

"Sweeter than the lids of Juno's eyes,
Or Cytherea's breath."

Our best known sweet-scented violet is a small, white, lilac-veined species (not yellow, as Bryant has it in his poem), that is common in wet, out-of-the-way places. Our common blue violet — the only species that is found abundantly everywhere in the North — blooms in May, and makes bright many a grassy meadow slope and sunny nook. Yet, for all that, it does not awaken the emotion in one that the earlier and more delicate spring flowers do, — the hepatica, say, with its shy wood habits, its pure, infantile expression, and at times its delicate perfume; or the houstonia, — "innocence," — flecking or streaking the cold spring earth with a milky way of minute stars; or the trailing arbutus, sweeter scented than the English violet, and outvying in tints Cytherea's or any other blooming goddess's cheek. Yet these flowers have no classical associations, and are consequently far less often upon the lips of our poets than the violet.

To return to birds, another dangerous one for the American poet is the lark, and our singers generally

are very shy of him. The term has been applied very loosely in this country to both the meadowlark and the bobolink, yet it is pretty generally understood now that we have no genuine skylark east of the Mississippi. Hence I am curious to know what bird Bayard Taylor refers to when he speaks in his "Spring Pastoral" of

"Larks responding aloft to the mellow flute of the bluebird."

Our so-called meadowlark is no lark at all, but a starling, and the titlark and shore lark breed and pass the summer far to the north, and are never heard in song in the United States.[1]

The poets are entitled to a pretty free range, but they must be accurate when they particularize. We expect them to see the fact through their imagination, but it must still remain a fact; the medium must not distort it into a lie. When they name a flower or a tree or a bird, whatever halo of the ideal they throw around it, it must not be made to belie the botany or the natural history. I doubt if you can catch Shakespeare transgressing the law in this respect, except where he followed the superstition and the imperfect knowledge of his time, as in his treatment of the honey-bee. His allusions to nature

[1] The shore lark has changed its habits in this respect of late years. It now breeds regularly on my native hills in Delaware County, New York, and may be heard in full song there from April to June or later.

are always incidental to his main purpose, but they reveal a careful and loving observer. For instance, how are fact and poetry wedded in this passage, put into the mouth of Banquo! —

> "This guest of summer,
> The temple-haunting martlet, does approve,
> By his loved masonry that the heaven's breath
> Smells wooingly here: no jutty, frieze,
> Buttress, nor coign of vantage, but this bird
> Hath made his pendent bed and procreant cradle:
> Where they most breed and haunt, I have observed,
> The air is delicate."

Nature is of course universal, but in the same sense is she local and particular, — cuts every suit to fit the wearer, gives every land an earth and sky of its own, and a flora and fauna to match. The poets and their readers delight in local touches. We have both the hare and the rabbit in America, but this line from Thomson's description of a summer morning, —

> "And from the bladed field the fearful hare limps awkward," —

or this from Beattie, —

> "Through rustling corn the hare astonished sprang" —

would not apply with the same force in New England, because our hare is never found in the fields, but in dense, remote woods. In England both

hares and rabbits abound to such an extent that in places the fields and meadows swarm with them, and the ground is undermined by their burrows, till they become a serious pest to the farmer, and are trapped in vast numbers. The same remark applies to this from Tennyson: —

> "From the woods
> Came voices of the well-contented doves."

Doves and wood-pigeons are almost as abundant in England as hares and rabbits, and are also a serious annoyance to the farmer; while in this country the dove and pigeon are much less marked and permanent features in our rural scenery, — less permanent, except in the case of the mourning dove, which is found here and there the season through; and less marked, except when the hordes of the passenger pigeon once in a decade or two invade the land, rarely tarrying longer than the bands of a foraging army. I hardly know what Trowbridge means by the "wood-pigeon" in his midsummer poem, for, strictly speaking, the wood-pigeon is a European bird, and a very common one in England. But let me say here, however, that Trowbridge, as a rule, keeps very close to the natural history of his own country when he has occasion to draw material from this source, and to American nature generally. You will find in his poems the wood pewee, the bluebird, the oriole, the robin, the grouse, the

kingfisher, the chipmunk, the mink, the bobolink, the wood thrush, all in their proper places. There are few bird-poems that combine so much good poetry and good natural history as his "Pewee." Here we have a glimpse of the catbird: —

> "In the alders, dank with noonday dews,
> The restless catbird darts and mews;"

here, of the cliff swallow: —

> "In the autumn, when the hollows
> All are filled with flying leaves
> And the colonies of swallows
> Quit the quaintly stuccoed eaves."

Only the dates are not quite right. The swallows leave their nests in July, which is nearly three months before the leaves fall. The poet is also a little unfaithful to the lore of his boyhood when he says

> "The partridge beats his throbbing drum"

in midsummer. As a rule, the partridge does not drum later than June, except fitfully during the Indian summer, while April and May are his favorite months. And let me say here, for the benefit of the poets who do not go to the woods, that the partridge does not always drum upon a log; he frequently drums upon a rock or a stone wall, if a suitable log be not handy, and no ear can detect the difference. His drum is really his own proud

breast, and beneath his small hollow wings gives forth the same low, mellow thunder from a rock as from a log. Bryant has recognized this fact in one of his poems.

Our poets are quite apt to get ahead or behind the season with their flowers and birds. It is not often that we catch such a poet as Emerson napping. He knows nature, and he knows the New England fields and woods, as few poets do. One may study our flora and fauna in his pages. He puts in the moose and the "surly bear," and makes the latter rhyme with "woodpecker:" —

"He saw beneath dim aisles, in odorous beds,
The slight Linnæa hang its twin-born heads.
. . . . . .
He heard, when in the grove, at intervals,
With sudden roar the aged pine-tree falls, —
One crash, the death-hymn of the perfect tree,
Declares the close of its green century."

"They led me through the thicket damp,
Through brake and fern, the beavers' camp."

"He saw the partridge drum in the woods;
He heard the woodcock's evening hymn;
He found the tawny thrushes' broods;
And the shy hawk did wait for him."

His "Titmouse" is studied in our winter woods, and his "Humble-Bee" in our summer fields. He

has seen farther into the pine-tree than any other poet; his "May-Day" is full of our spring sounds and tokens; he knows the "punctual birds," and the "herbs and simples of the wood:" —

"Rue, cinque-foil, gill, vervain, and agrimony,
Blue-vetch, and trillium, hawk-weed, sassafras,
Milk-weeds and murky brakes, quaint pipes and sun-dew."

Here is a characteristic touch: —

"A woodland walk,
A quest of river-grapes, a mocking thrush,
A wild rose, or rock-loving columbine,
Salve my worst wounds."

That "rock-loving columbine" is better than Bryant's "columbines, in purple dressed," as our flower is not purple, but yellow and scarlet. Yet Bryant set the example to the poets that have succeeded him of closely studying Nature as she appears under our own skies.

I yield to none in my admiration of the sweetness and simplicity of his poems of nature, and in general of their correctness of observation. They are tender and heartfelt, and they touch chords that no other poet since Wordsworth has touched with so firm a hand. Yet he was not always an infallible observer; he sometimes tripped up on his facts, and at other times he deliberately moulded them, adding to, or cutting off, to suit the purposes of his verse.

I will cite here two instances in which his natural history is at fault. In his poem on the bobolink he makes the parent birds feed their young with "seeds," whereas, in fact, the young are fed exclusively upon insects and worms. The bobolink is an insectivorous bird in the North, or until its brood has flown, and a granivorous bird in the South.

In his "Evening Revery" occur these lines: —

> "The mother bird hath broken for her brood
> Their prison shells, or shoved them from the nest,
> Plumed for their earliest flight."

It is not a fact that the mother bird aids her offspring in escaping from the shell. The young of all birds are armed with a small temporary horn or protuberance upon the upper mandible, and they are so placed in the shell that this point is in immediate contact with its inner surface; as soon as they are fully developed and begin to struggle to free themselves, the horny growth "pips" the shell. Their efforts then continue till their prison walls are completely sundered and the bird is free. This process is rendered the more easy by the fact that toward the last the shell becomes very rotten; the acids that are generated by the growing chick eat it and make it brittle, so that one can hardly touch a fully incubated bird's egg without breaking it. To help the young bird forth would insure its speedy death. It is not true, either, that the parent shoves

its young from the nest when they are fully fledged, except possibly in the case of some of the swallows and of the eagle. The young of all our more common birds leave the nest of their own motion, stimulated probably by the calls of the parents, and in some cases by the withholding of food for a longer period than usual.

As an instance where Bryant warps the facts to suit his purpose, take his poems of the "Yellow Violet" and "The Fringed Gentian." Of this last flower he says: —

> "Thou waitest late and com'st alone,
> When woods are bare and birds are flown,
> And frosts and shortening days portend
> The aged year is near his end."

The fringed gentian belongs to September, and, when the severer frosts keep away, it runs over into October. But it does not come alone, and the woods are not bare. The closed gentian comes at the same time, and the blue and purple asters are in all their glory. Goldenrod, turtle-head, and other fall flowers also abound. When the woods are bare, which does not occur in New England till in or near November, the fringed gentian has long been dead. It is in fact killed by the first considerable frost. No, if one were to go botanizing, and take Bryant's poem for a guide, he would not bring home any fringed gentians with him. The only

flower he would find would be the witch-hazel. Yet I never see this gentian without thinking of Bryant's poem, and feeling that he has brought it immensely nearer to us.

Bryant's poem of the "Yellow Violet" has all his accustomed simplicity and pensiveness, but his love for the flower carries him a little beyond the facts; he makes it sweet-scented, —

> "Thy faint perfume
> Alone is in the virgin air;"

and he makes it the first flower of spring. I have never been able to detect any perfume in the yellow species (*Viola rotundifolia*). This honor belongs alone to our two white violets, *Viola blanda* and *Viola Canadensis*.

Neither is it quite true that

> "Of all her train, the hands of Spring
> First plant thee in the watery mould."

Now it is an interesting point which really is our first spring flower. Which comes second or third is of less consequence, but which everywhere and in all seasons comes first; and in such a case the poet must not place the honor where it does not belong. I have no hesitation in saying that, throughout the Middle and New England States, the hepatica is the first spring flower.[1] It is some days

[1] Excepting, of course, the skunk-cabbage.

ahead of all others. The yellow violet belongs only to the more northern sections, — to high, cold, beechen woods, where the poet rightly places it; but in these localities, if you go to the spring woods every day, you will gather the hepatica first. I have also found the claytonia and the coltsfoot first. In a poem called "The Twenty-Seventh of March," Bryant places both the hepatica and the arbutus before it: —

"Within the woods
Tufts of ground-laurel, creeping underneath
The leaves of the last summer, send their sweets
Upon the chilly air, and by the oak,
The squirrel cups, a graceful company,
Hide in their bells, a soft aerial blue,"—

ground-laurel being a local name for trailing arbutus, called also mayflower, and squirrel-cups for hepatica, or liver-leaf. But the yellow violet may rightly dispute for the second place.

In "The Song of the Sower" our poet covers up part of the truth with the grain. The point and moral of the song he puts in the statement, that the wheat sown in the fall lies in the ground till spring before it germinates; when, in fact, it sprouts and grows and covers the ground with "emerald blades" in the fall: —

"Fling wide the generous grain; we fling
O'er the dark mould the green of spring.

For thick the emerald blades shall grow,
When first the March winds melt the snow.
And to the sleeping flowers, below,
The early bluebirds sing.

. . . . . .

Brethren, the sower's task is done.
The seed is in its winter bed.
Now let the dark-brown mould be spread,
To hide it from the sun,
And leave it to the kindly care
Of the still earth and brooding air,
As when the mother, from her breast,
Lays the hushed babe apart to rest,
And shades its eyes and waits to see
How sweet its waking smile will be.
The tempest now may smite, the sleet
All night on the drowned furrow beat,
And winds that, from the cloudy hold
Of winter, breathe the bitter cold,
Stiffen to stone the mellow mould,
Yet safe shall lie the wheat;
Till, out of heaven's unmeasured blue,
Shall walk again the genial year,
To wake with warmth and nurse with dew
The germs we lay to slumber here."

Of course the poet was not writing an agricultural essay, yet one does not like to feel that he was obliged to ignore or sacrifice any part of the truth to build up his verse. One likes to see him keep within the fact without being conscious of it or

hampered by it, as he does in "The Planting of the Apple-Tree," or in the "Lines to a Water-Fowl."

But there are glimpses of American scenery and climate in Bryant that are unmistakable, as in these lines from "Midsummer:" —

"Look forth upon the earth — her thousand plants
Are smitten; even the dark, sun-loving maize
Faints in the field beneath the torrid blaze;
The herd beside the shaded fountain pants;
For life is driven from all the landscape brown;
The bird has sought his tree, the snake his den,
The trout floats dead in the hot stream, and men
Drop by the sunstroke in the populous town."

Here is a touch of our "heated term" when the dogstar is abroad and the weather runs mad. I regret the "trout floating dead in the hot stream," because, if such a thing ever has occurred, it is entirely exceptional. The trout in such weather seek the deep water and the spring holes, and hide beneath rocks and willow banks. The following lines would be impossible in an English poem: —

"The snowbird twittered on the beechen bough,
And 'neath the hemlock, whose thick branches bent
Beneath its bright, cold burden, and kept dry
A circle, on the earth, of withered leaves,
The partridge found a shelter."

Both Bryant and Longfellow put their spring bluebird in the elm, which is a much better place

for the oriole, — the elm-loving oriole. The bluebird prefers a humbler perch. Lowell puts him upon a post in the fence, which is a characteristic attitude: —

"The bluebird, shifting his light load of song,
From post to post along the cheerless fence."

Emerson calls him "April's bird," and makes him "fly before from tree to tree," which is also good. But the bluebird is not strictly a songster in the sense in which the song sparrow or the indigo-bird, or the English robin redbreast, is; nor do Bryant's lines hit the mark: —

"The bluebird chants, from the elm's long branches,
A hymn to welcome the budding year."

Lowell, again, is nearer the truth when he speaks of his "whiff of song." All his notes are call-notes, and are addressed directly to his mate. The song-birds take up a position and lift up their voices and sing. It is a deliberate musical performance, as much so as that of Nilsson or Patti. The bluebird, however, never strikes an attitude and sings for the mere song's sake. But the poets are perhaps to be allowed this latitude, only their pages lose rather than gain by it. Nothing is so welcome in this field as characteristic touches, a word or a phrase that fits this case and no other. If the bluebird chants a hymn, what does the wood thrush do? Yet the bluebird's note is more pleasing than most bird-

songs; if it could be reproduced in color, it would be the hue of the purest sky.

Longfellow makes the swallow sing: —

"The darting swallows soar and sing;" —

which would leave him no room to describe the lark, if the lark had been about. Bryant comes nearer the mark this time: —

"There are notes of joy from the hang-bird and wren,
And the gossip of swallows through all the sky;"

so does Tennyson when he makes his swallow

"Cheep and twitter twenty million loves;"

also Lowell again in this line: —

"The thin-winged swallow skating on the air;"

and Virgil: —

"Swallows twitter on the chimney tops."

Longfellow is perhaps less close and exact in his dealings with nature than any of his compeers, although he has written some fine naturalistic poems, as his "Rain in Summer," and others. When his fancy is taken, he does not always stop to ask, Is this so? Is this true? as when he applies the Spanish proverb, "There are no birds in last year's nests," to the nests beneath the eaves; for these are just the last year's nests that do contain birds in May. The cliff swallow and the barn swallow always reoccupy their old nests, when they

are found intact; so do some other birds. Again the hawthorn, or whitethorn, field-fares, belong to English poetry more than to American. The ash in autumn is not deep crimsoned, but a purplish brown. "The ash her purple drops forgivingly," says Lowell in his "Indian-Summer Reverie." Flax is not golden, lilacs are purple or white and not flame-colored, and it is against the law to go trouting in November. The pelican is not a wader any more than a goose or a duck is, and the golden robin or oriole is not a bird of autumn. This stanza from "The Skeleton in Armor" is a striking one: —

"As with his wings aslant,
Sails the fierce cormorant,
Seeking some rocky haunt,
With his prey laden,
So toward the open main,
Beating to sea again,
Through the wild hurricane,
Bore I the maiden."

But unfortunately the cormorant never does anything of the kind; it is not a bird of prey: it is web-footed, a rapid swimmer and diver, and lives upon fish, which it usually swallows as it catches them. Virgil is nearer to fact when he says: —

"When crying cormorants forsake the sea
And, stretching to the covert, wing their way."

But cormorant with Longfellow may stand for any

of the large rapacious birds, as the eagle or the condor. True, and yet the picture is a purely fanciful one, as no bird of prey *sails* with his burden; on the contrary, he flaps heavily and laboriously, because he is always obliged to mount. The stress of the rhyme and metre are of course in this case very great, and it is they, doubtless, that drove the poet into this false picture of a bird of prey laden with his quarry. It is an ungracious task, however, to cross-question the gentle Muse of Longfellow in this manner. He is a true poet if there ever was one, and the slips I point out are only like an obscure feather or two in the dove carelessly preened. The burnished plumage and the bright hues hide them unless we look sharply.

Whittier gets closer to the bone of the New England nature. He comes from the farm, and his memory is stored with boyhood's wild and curious lore, with

> "Knowledge never learned of schools,
> Of the wild bee's morning chase,
> Of the wild flower's time and place,
> Flight of fowl and habitude
> Of the tenants of the wood;
> How the tortoise bears his shell,
> How the woodchuck digs his cell,
> And the ground-mole sinks his well;
> How the robin feeds her young;
> How the oriole's nest is hung;

Where the whitest lilies blow,
Where the freshest berries grow,
Where the ground-nut trails its vine,
Where the wood-grape's clusters shine;
Of the black wasp's cunning way,
Mason of his walls of clay,
And the architectural plans
Of gray hornet artisans!"

The poet is not as exact as usual when he applies the epithet "painted" to the autumn beeches, as the foliage of the beech is the least painty of all our trees; nor when he speaks of

"Wind-flower and violet, amber and white,"

as neither of the flowers named is amber-colored. From "A Dream of Summer" the reader might infer that the fox shut up house in the winter like the muskrat: —

"The fox his hillside cell forsakes,
The muskrat leaves his nook,
The bluebird in the meadow brakes
Is singing with the brook."

The only one of these incidents that is characteristic of a January thaw in the latitude of New England is the appearance of the muskrat. The fox is never in his cell in winter, except he is driven there by the hound, or by soft or wet weather, and the bluebird does not sing in the brakes at any time

of the year. A severe stress of weather will drive the foxes off the mountains into the low, sheltered woods and fields, and a thaw will send them back again. In the winter the fox sleeps during the day upon a rock or stone wall, or upon a snowbank, where he can command all the approaches, or else prowls stealthily through the woods.

But there is seldom a false note in any of Whittier's descriptions of rural sights and sounds. What a characteristic touch is that in one of his "Mountain Pictures:" —

"The pasture bars that clattered as they fell."

It is the only strictly native, original, and typical sound he reports on that occasion. The bleating of sheep, the barking of dogs, the lowing of cattle, the splash of the bucket in the well, "the pastoral curfew of the cowbell," etc., are sounds we have heard before in poetry, but that clatter of the pasture bars is American; one can almost see the waiting, ruminating cows slowly stir at the signal, and start for home in anticipation of the summons. Every summer day, as the sun is shading the hills, the clatter of those pasture bars is heard throughout the length and breadth of the land.

"Snow-Bound" is the most faithful picture of our Northern winter that has yet been put into poetry. What an exact description is this of the morning after the storm: —

"We looked upon a world unknown,
On nothing we could call our own.
Around the glistening wonder bent
The blue walls of the firmament,
No cloud above, no earth below, —
A universe of sky and snow!"

In his little poem on the mayflower, Mr. Stedman catches and puts in a single line a feature of our landscape in spring that I have never before seen alluded to in poetry. I refer to the second line of this stanza: —

"Fresh blows the breeze through hemlock-trees,
The fields are edged with green below,
And naught but youth, and hope, and love
We know or care to know!"

It is characteristic of our Northern and New England fields that they are "edged with green" in spring long before the emerald tint has entirely overspread them. Along the fences, especially along the stone walls, the grass starts early; the land is fatter there from the deeper snows and from other causes, the fence absorbs the heat, and shelters the ground from the winds, and the sward quickly responds to the touch of the spring sun.

Stedman's poem is worthy of his theme, and is the only one I recall by any of our well-known poets upon the much-loved mayflower or arbutus. There is a little poem upon this subject by an un-

known author that also has the right flavor. I recall but one stanza: —

> "Oft have I walked these woodland ways,
> Without the blest foreknowing,
> That underneath the withered leaves
> The fairest flowers were blowing."

Nature's strong and striking effects are best rendered by closest fidelity to her. Listen and look intently, and catch the exact effect as nearly as you can. It seems as if Lowell had done this more than most of his brother poets. In reading his poems, one wishes for a little more of the poetic unction (I refer, of course, to his serious poems; his humorous ones are just what they should be), yet the student of nature will find many close-fitting phrases and keen observations in his pages, and lines that are exactly, and at the same time poetically, descriptive. He is the only writer I know of who has noticed the fact that the roots of trees do not look supple and muscular like their boughs, but have a stiffened, congealed look, as of a liquid hardened.

> "Their roots, like molten metal cooled in flowing,
> Stiffened in coils and runnels down the bank."

This is exactly the appearance the roots of most trees, when uncovered, present; they flow out from the trunk like diminishing streams of liquid metal, taking the form of whatever they come in contact

In the Orchard

with, parting around a stone and uniting again beyond it, and pushing their way along with many a pause and devious turn. One principal office of the roots of a tree is to gripe, to hold fast the earth: hence they feel for and lay hold of every inequality of surface; they will fit themselves to the top of a comparatively smooth rock, so as to adhere amazingly, and flow into the seams and crevices like metal into a mould.

Lowell is singularly true to the natural history of his own country. In his "Indian-Summer Reverie" we catch a glimpse of the hen-hawk, silently sailing overhead

"With watchful, measuring eye,"

the robin feeding on cedar berries, and the squirrel,

"On the shingly shagbark's bough."

I do not remember to have met the "shagbark" in poetry before, or that gray lichen-covered stone wall which occurs farther along in the same poem, and which is so characteristic of the older farms of New York and New England. I hardly know what the poet means by

"The wide-ranked mowers wading to the knee,"

as the mowers do not wade in the grass they are cutting, though they might appear to do so when viewed athwart the standing grass; perhaps this is the explanation of the line.

But this is just what the bobolink does when the care of his young begins to weigh upon him:—

"Meanwhile that devil-may-care, the bobolink,
Remembering duty, in mid-quaver stops
Just ere he sweeps o'er rapture's tremulous brink,
And 'twixt the winrows most demurely drops."

I do not vouch for that dropping between the windrows, as in my part of the country the bobolinks flee before the hay-makers, but that sudden stopping on the brink of rapture, as if thoughts of his helpless young had extinguished his joy, is characteristic.

Another carefully studied description of Lowell's is this:—

"The robin sings as of old from the limb!
The catbird croons in the lilac-bush!
Through the dim arbor, himself more dim,
Silently hops the hermit thrush."

Among trees Lowell has celebrated the oak, the pine, the birch; and among flowers, the violet and the dandelion. The last, I think, is the most pleasing of these poems:—

"Dear common flower, that grow'st beside the way,
Fringing the dusty road with harmless gold,
First pledge of blithesome May."

The dandelion is indeed, in our latitude, the pledge

of May. It comes when the grass is short, and the fresh turf sets off its "ring of gold" with admirable effect; hence we know the poet is a month or more out of the season when, in "Al Fresco," he makes it bloom with the buttercup and the clover: —

> "The dandelions and buttercups
> Gild all the lawn; the drowsy bee
> Stumbles among the clover-tops,
> And summer sweetens all but me."

Of course the dandelion blooms occasionally throughout the whole summer, especially where the grass is kept short, but its proper season, when it "gilds all the lawn," is, in every part of the country, some weeks earlier than the tall buttercup and the clover. These bloom in June in New England and New York, and are contemporaries of the daisy. In the meadows and lawns, the dandelion drops its flower and holds aloft its sphere of down, touching the green surface as with a light frost, long before the clover and the buttercup have formed their buds. In "Al Fresco" our poet is literally in clover, he is reveling in the height of the season, the full tide of summer is sweeping around him, and he has riches enough without robbing May of her dandelions. Let him say, —

> "The daisies and the buttercups
> Gild all the lawn."

I smile as I note that the woodpecker proves a refractory bird to Lowell, as well as to Emerson: —

> Emerson rhymes it with bear,
> Lowell rhymes it with hear,
> One makes it woodpeckair,
> The other, woodpeckear.

But its hammer is a musical one, and the poets do well to note it. Our most pleasing drummer upon dry limbs among the woodpeckers is the yellow-bellied. His measured, deliberate tap, heard in the stillness of the primitive woods, produces an effect that no bird-song is capable of.

Tennyson is said to have very poor eyes, but there seems to be no defect in the vision with which he sees nature, while he often hits the nail on the head in a way that would indicate the surest sight. True, he makes the swallow hunt the bee, which, for aught I know, the swallow may do in England. Our purple martin has been accused of catching the honey-bee, but I doubt his guilt. But those of our swallows that correspond to the British species, the barn swallow, the cliff swallow, and the bank swallow, subsist upon very small insects. But what a clear-cut picture is that in the same poem ("The Poet's Song"): —

> "The wild hawk stood, with the down on his beak,
> And stared, with his foot on the prey."

It takes a sure eye, too, to see

"The landscape winking thro' the heat" —

or to gather this image: —

"He has a solid base of temperament;
But as the water-lily starts and slides
Upon the level in little puffs of wind,
Though anchor'd to the bottom, such is he;"

or this: —

"Arms on which the standing muscle sloped,
As slopes a wild brook o'er a little stone,
Running too vehemently to break upon it," —

and many other gems that abound in his poems. He does not cut and cover in a single line, so far as I have observed. Great caution and exact knowledge underlie his most rapid and daring flights. A lady told me that she was once walking with him in the fields, when they came to a spring that bubbled up through shifting sands in a very pretty manner, and Tennyson, in order to see exactly how the spring behaved, got down on his hands and knees and peered a long time into the water. The incident is worth repeating as showing how intently a great poet studies nature.

Walt Whitman says he has been trying for years to find a word that would express or suggest that evening call of the robin. How absorbingly this

poet must have studied the moonlight to hit upon this descriptive phrase: —

"The vitreous pour of the full moon just tinged with blue;"

how long have looked upon the carpenter at his bench to have made this poem: —

"The tongue of his fore-plane whistles its wild ascending lisp;"

or how lovingly listened to the nocturne of the mockingbird to have turned it into words in "A Word out of the Sea"! Indeed, no poet has studied American nature more closely than Whitman has, or is more cautious in his uses of it. How easy are his descriptions! —

"Behold the daybreak!
The little light fades the immense and diaphanous shadows!"

"The comet that came unannounced
Out of the north, flaring in heaven."

"The fan-shaped explosion."

"The slender and jagged threads of lightning, as sudden and fast amid the din they chased each other across the sky."

"Where the heifers browse — where geese nip their food with short jerks;

Where sundown shadows lengthen over the limitless and lonesome prairie;
Where herds of buffalo make a crawling spread of the square miles far and near;
Where the hummingbird shimmers — where the neck of the long-lived swan is curving and winding;
Where the laughing-gull scoots by the shore when she laughs her near human laugh;
Where band-neck'd partridges roost in a ring on the ground with their heads out."

Whitman is less local than the New England poets, and faces more to the West. But he makes himself at home everywhere, and puts in characteristic scenes and incidents, generally compressed into a single line, from all trades and doings and occupations, North, East, South, West, and identifies himself with man in all straits and conditions on the continent. Like the old poets, he does not dwell upon nature, except occasionally through the vistas opened up by the great sciences, as astronomy and geology, but upon life and movement and personality, and puts in a shred of natural history here and there, — the "twittering redstart," the spotted hawk swooping by, the oscillating sea-gulls, the yellow-crowned heron, the razor-billed auk, the lone wood duck, the migrating geese, the sharp-hoofed moose, the mockingbird "the thrush, the hermit," etc., — to help locate and define his position. Everywhere in nature Whitman finds human

relations, human responsions. In entire consistence with botany, geology, science, or what not, he endues his very seas and woods with passion, more than the old hamadryads or tritons. His fields, his rocks, his trees, are not dead material, but living companions. This is doubtless one reason why Addington Symonds, the young Hellenic scholar of England, finds him more thoroughly Greek than any other man of modern times.

Our natural history, and indeed all phases of life in this country, is rich in materials for the poet that have yet hardly been touched. Many of our most familiar birds, which are inseparably associated with one's walks and recreations in the open air, and with the changes of the seasons, are yet awaiting their poet, — as the high-hole, with his golden-shafted quills and loud continued spring call; the meadowlark, with her crescent-marked breast and long-drawn, piercing, yet tender April and May summons forming, with that of the high-hole, one of the three or four most characteristic field sounds of our spring; the happy goldfinch, circling round and round in midsummer with that peculiar undulating flight and calling *per-chick'-o-pee, per-chick'-o-pee,* at each opening and shutting of the wings, or later leading her plaintive brood among the thistle-heads by the roadside; the little indigo-bird, facing the torrid sun of August and singing through all the livelong summer day; the

contented musical soliloquy of the vireo, like the whistle of a boy at his work, heard through all our woods from May to September: —

> " Pretty green worm, where are you?
> Dusky-winged moth, how fare you,
> When wind and rain are in the tree?
> Cheeryo, cheerebly, chee,
> Shadow and sun one are to me.
> Mosquito and gnat, beware you,
> Saucy chipmunk, how dare you
> Climb to my nest in the maple-tree,
> And dig up the corn
> At noon and at morn?
> Cheeryo, cheerebly, chee."

Or the phœbe-bird, with her sweet April call and mossy nest under the bridge or woodshed, or under the shelving rocks; or the brown thrasher — mocking thrush — calling half furtively, half archly from the treetop back in the bushy pastures: " Croquet, croquet, hit it, hit it, come to me, come to me, tight it, tight it, you 're out, you 're out," with many musical interludes; or the chewink, rustling the leaves and peering under the bushes at you; or the pretty little oven-bird, walking round and round you in the woods, or suddenly soaring above the treetops, and uttering its wild lyrical strain; or, farther south, the whistling redbird, with his crest and military bearing, — these and many others should be full of suggestion and inspiration to our

poets. It is only lately that the robin's song has been put into poetry. Nothing could be happier than this rendering of it by a nameless singer in "A Masque of Poets:" —

"When the willows gleam along the brooks,
And the grass grows green in sunny nooks,
In the sunshine and the rain
I hear the robin in the lane
Singing, 'Cheerily,
Cheer up, cheer up;
Cheerily, cheerily,
Cheer up.'

"But the snow is still
Along the walls and on the hill.
The days are cold, the nights forlorn,
For one is here and one is gone.
'Tut, tut. Cheerily,
Cheer up, cheer up;
Cheerily, cheerily,
Cheer up.'

"When spring hopes seem to wane,
I hear the joyful strain —
A song at night, a song at morn,
A lesson deep to me is borne,
Hearing, 'Cheerily,
Cheer up, cheer up;
Cheerily, cheerily,
Cheer up.' "

NATURE AND THE POETS

The poetic interpretation of nature, which has come to be a convenient phrase, and about which the Oxford professor of poetry has written a book, is, of course, a myth, or is to be read the other way. It is the soul the poet interprets, not nature. There is nothing in nature but what the beholder supplies. Does the sculptor interpret the marble or his own ideal? Is the music in the instrument, or in the soul of the performer? Nature is a dead clod until you have breathed upon it with your genius. You commune with your own soul, not with woods or waters; they furnish the conditions, and are what you make them. Did Shelley interpret the song of the skylark, or Keats that of the nightingale? They interpreted their own wild, yearning hearts. The trick of the poet is always to idealize nature, — to see it subjectively. You cannot find what the poets find in the woods until you take the poet's heart to the woods. He sees nature through a colored glass, sees it truthfully, but with an indescribable charm added, the aureole of the spirit. A tree, a cloud, a bird, a sunset, have no hidden meaning that the art of the poet is to unlock for us. Every poet shall interpret them differently, and interpret them rightly, because the soul is infinite. Milton's nightingale is not Coleridge's; Burns's daisy is not Wordsworth's; Emerson's humblebee is not Lowell's; nor does Turner see in nature what Tintoretto does, nor Veronese

what Correggio does. Nature is all things to all men. "We carry within us," says Sir Thomas Browne, "the wonders we find without." The same idea is daintily expressed in these tripping verses of Bryant's: —

"Yet these sweet sounds of the early season
And these fair sights of its early days,
Are only sweet when we fondly listen,
And only fair when we fondly gaze.

"There is no glory in star or blossom,
Till looked upon by a loving eye;
There is no fragrance in April breezes,
Till breathed with joy as they wander by;"

and in these lines of Lowell: —

"What we call Nature, all outside ourselves,
Is but our own conceit of what we see,
Our own reaction upon what we feel."

"I find my own complexion everywhere."

Before either, Coleridge had said: —

"We receive but what we give,
And in our life alone doth Nature live;
Ours is the wedding-garment, ours the shroud;"

and Wordsworth had spoken of

"The light that never was on sea or land,
The consecration and the poet's dream."

That light that never was on sea or land is what the poet gives us, and is what we mean by the poetic interpretation of nature. The Oxford professor struggles against this view. "It is not true," he says, "that nature is a blank, or an unintelligible scroll with no meaning of its own but that which we put into it from the light of our own transient feelings." Not a blank, certainly, to the scientist, but full of definite meanings and laws, and a storehouse of powers and economies; but to the poet the meaning is what he pleases to make it, what it provokes in his own soul. To the man of science it is thus and so, and not otherwise; but the poet touches and goes, and uses nature as a garment which he puts off and on. Hence the scientific reading or interpretation of nature is the only real one. Says the *Soothsayer* in "Antony and Cleopatra:" —

> 'In Nature's infinite book of secrecy a little do I read."

This is science bowed and reverent, and speaking through a great poet. The poet himself does not so much read in nature's book — though he does this, too — as write his own thoughts there. Nature reads him, she is the page and he the type, and she takes the impression he gives. Of course the poet uses the truths of nature also, and he establishes his right to them by bringing them home to

us with a new and peculiar force, — a quickening or kindling force. What science gives is melted in the fervent heat of the poet's passion, and comes back to us supplemented by his quality and genius. He gives more than he takes, always.

V

NOTES BY THE WAY

A NEW NOTE IN THE WOODS

THERE is always a new page to be turned in natural history, if one is sufficiently on the alert. I did not know that the eagle celebrated his nuptials in the air till one early spring day I saw a pair of them fall from the sky with talons hooked together. They dropped a hundred feet or more, in a wild embrace, their great wings fanning the air, then separated and mounted aloft, tracing their great circles against the clouds. "Watch and wait" is the naturalist's sign. For years I have been trying to ascertain for a certainty the author of that fine plaintive piping to be heard more or less frequently, according to the weather, in our summer and autumn woods. It is a note that much resembles that of our small marsh frog in spring, — the hyla; it is not quite so clear and assured, but otherwise much the same. Of a very warm October day I have heard the wood vocal with it; it seemed to proceed from every stump and tree about one. Ordinarily it is

heard only at intervals throughout the woods. Approach never so cautiously the spot from which the sound proceeds, and it instantly ceases, and you may watch for an hour without again hearing it. Is it a frog, I said, the small tree-frog, the piper of the marshes, repeating his spring note, but little changed, amid the trees? Doubtless it is, yet I must see him in the very act. So I watched and waited, but to no purpose, till one day, while bee-hunting in the woods, I heard the sound proceed from beneath the leaves at my feet. Keeping entirely quiet, the little musician presently emerged, and, lifting himself up on a small stick, his throat palpitated and the plaintive note again came forth. "The queerest frog ever I saw," said a youth who accompanied me, and whom I had enlisted to help solve the mystery. No; it was no frog or toad at all, but the small red salamander, commonly called lizard. The color is not strictly red, but a dull orange, variegated with minute specks or spots. This was the mysterious piper, then, heard from May till November through all our woods, sometimes on trees, but usually on or near the ground. It makes more music in the woods in autumn than any bird. It is a pretty, inoffensive creature, walks as awkwardly as a baby, and may often be found beneath stones and old logs in the woods, where, buried in the mould, it passes the winter. (I suspect there is a species of little frog —

Pickering's hyla [1] — that also pipes occasionally in the woods.) I have discovered, also, that we have a musical spider. One sunny April day, while seated on the borders of the woods, my attention was attracted by a soft, uncertain, purring sound that proceeded from the dry leaves at my feet. On investigating the matter, I found that it was made by a busy little spider. Several of them were traveling about over the leaves, as if in quest of some lost cue or secret. Every moment or two they would pause, and by some invisible means make the low, purring sound referred to. Dr. J. A. Allen says the common turtle, or land tortoise, also has a note, — a loud, shrill, piping sound. It may yet be discovered that there is no silent creature in nature.

THE SAND HORNET

I turned another (to me) new page in natural history, when, during the past season, I made the acquaintance of the sand wasp or hornet. From boyhood I had known the black hornet, with his large paper nest, and the spiteful yellow-jacket, with his lesser domicile, and had cherished proper contempt for the various indolent wasps. But the sand hornet was a new bird, — in fact, the harpy eagle among insects, — and he made an impression. While walking along the road about midsummer, I

[1] A frequent piper in the woods throughout the summer and early fall.

noticed working in the towpath, where the ground was rather inclined to be dry and sandy, a large yellow hornet-like insect. It made a hole the size of one's little finger in the hard, gravelly path beside the roadbed. When disturbed, it alighted on the dirt and sand in the middle of the road. I had noticed in my walks some small bullet-like holes in the field that had piqued my curiosity, and I determined to keep an eye on these insects of the roadside. I explored their holes, and found them quite shallow, and no mystery at the bottom of them. One morning in the latter part of July, walking that way, I was quickly attracted by the sight of a row of little mounds of fine, freshly dug earth resting upon the grass beside the road, a foot or more beneath the path. "What is this?" I said. "Mice, or squirrels, or snakes," said my neighbor. But I connected it at once with the strange insect I had seen. Neither mice nor squirrels work like that, and snakes do not dig. Above each mound of earth was a hole the size of one's largest finger, leading into the bank. While speculating about the phenomenon, I saw one of the large yellow hornets I had observed quickly enter one of the holes. That settled the query. While spade and hoe were being brought to dig him out, another hornet appeared, heavy-laden with some prey, and flew humming up and down and around the place where I was standing. I withdrew a little, when

he quickly alighted upon one of the mounds of earth, and I saw him carrying into his den no less an insect than the cicada or harvest-fly. Then another came, and after coursing up and down a few times, disturbed by my presence, alighted upon a tree, with his quarry, to rest. The black hornet will capture a fly, or a small butterfly, and, after breaking and dismembering it, will take it to his nest; but here was this hornet carrying an insect much larger than himself, and flying with ease and swiftness. It was as if a hawk should carry a hen, or an eagle a turkey. I at once proceeded to dig for one of the hornets, and, after following his hole about three feet under the footpath and to the edge of the roadbed, succeeded in capturing him and recovering the cicada. The hornet weighed fifteen grains, and the cicada nineteen; but in bulk the cicada exceeded the hornet by more than half. In color, the wings and thorax, or waist, of the hornet were a rich bronze; the abdomen was black, with three irregular yellow bands; the legs were large and powerful, especially the third or hindmost pair, which were much larger than the others, and armed with many spurs and hooks. In digging its hole the hornet has been seen at work very early in the morning. It backed out with the loosened material, like any other animal under the same circumstances, holding and scraping back the dirt with its legs. The preliminary prospecting upon the footpath,

which I had observed, seems to have been the work of the males, as it was certainly of the smaller hornets, and the object was doubtless to examine the ground, and ascertain if the place was suitable for nesting. By digging two or three inches through the hard, gravelly surface of the road, a fine sandy loam was discovered, which seemed to suit exactly, for in a few days the main shafts were all started in the greensward, evidently upon the strength of the favorable report which the surveyors had made. These were dug by the larger hornets or females. There was but one inhabitant in each hole, and the holes were two or three feet apart. One that we examined had nine chambers or galleries at the end of it, in each of which were two locusts, or eighteen in all. The locusts of the locality had suffered great slaughter. Some of them in the hole or den had been eaten to a mere shell by the larvæ of the hornet. Under the wing of each insect an egg is attached; the egg soon hatches, and the grub at once proceeds to devour the food its thoughtful parent has provided. As it grows, it weaves itself a sort of shell or cocoon, in which, after a time, it undergoes its metamorphosis, and comes out, I think, a perfect insect toward the end of summer.

I understood now the meaning of that sudden cry of alarm I had so often heard proceed from the locust or cicada, followed by some object falling and rustling amid the leaves; the poor insect was

doubtless in the clutches of this arch enemy. A number of locusts usually passed the night on the under side of a large limb of a mulberry-tree near by: early one morning a hornet was seen to pounce suddenly upon one and drag it over on the top of the limb; a struggle ensued, but the locust was soon quieted and carried off. It is said that the hornet does not sting the insect in a vital part, — for in that case it would not keep fresh for its young, — but introduces its poison into certain nervous ganglia, the injury to which has the effect of paralyzing the victim and making it incapable of motion, though life remains for some time.

My friend Van, who watched the hornets in my absence, saw a fierce battle one day over the right of possession of one of the dens. An angry, humming sound was heard to proceed from one of the holes; gradually it approached the surface, until the hornets emerged locked in each other's embrace, and rolled down the little embankment, where the combat was continued. Finally, one released his hold and took up his position in the mouth of his den (of course I should say *she* and *her*, as these were the queen hornets), where she seemed to challenge her antagonist to come on. The other one manœuvred about awhile, but could not draw her enemy out of her stronghold; then she clambered up the bank and began to bite and tear off bits of grass, and to loosen gravel-stones and earth, and

roll them down into the mouth of the disputed passage. This caused the besieged hornet to withdraw farther into her hole, when the other came down and thrust in her head, but hesitated to enter. After more manœuvring, the aggressor withdrew, and began to bore a hole about a foot from the one she had tried to possess herself of by force.

Besides the cicada, the sand hornet captures grasshoppers and other large insects. I have never met with it before the present summer (1879), but this year I have heard of its appearance at several points along the Hudson.

THE SOLITARY BEE

If you "leave no stone unturned" in your walks through the fields, you may perchance discover the abode of one of our solitary bees. Indeed, I have often thought what a chapter of natural history might be written on "Life under a Stone," so many of our smaller creatures take refuge there, — ants, crickets, spiders, wasps, bumblebees, the solitary bee, mice, toads, snakes, and newts. What do these things do in a country where there are no stones? A stone makes a good roof, a good shield; it is water-proof and fire-proof, and, until the season becomes too rigorous, frost-proof, too. The field mouse wants no better place to nest than beneath a large, flat stone, and the bumblebee is entirely satisfied if she can get possession of his old or aban-

doned quarters. I have even heard of a swarm of hive bees going under a stone that was elevated a little from the ground. After that, I did not marvel at Samson's bees going into the carcass or skeleton of the lion.

In the woods one day (it was in November) I turned over a stone that had a very strange-looking creature under it, — a species of salamander I had never before seen, the banded salamander. It was five or six inches long, and was black and white in alternate bands. It looked like a creature of the night, — darkness dappled with moonlight, — and so it proved. I wrapped it up in some leaves and took it home in my pocket. By day it would barely move, and could not be stimulated or frightened into any degree of activity; but at night it was alert and wide awake. Of its habits I know little, but it is a pretty and harmless creature. Under another stone was still another species, the violet-colored salamander, larger, of a dark plum-color, with two rows of bright yellow spots down its back. It evinced more activity than its fellow of the moon-bespattered garb. I have also found the little musical red newt under stones, and several small, dark species.

But to return to the solitary bee. When you go a-hunting of the honey-bee, and are in quest of a specimen among the asters or goldenrod in some remote field to start a line with, you shall see how

much this little native bee resembles her cousin of the social hive. There appear to be several varieties, but the one I have in mind is just the size of the honey-bee, and of the same general form and color, and its manner among the flowers is nearly the same. On close inspection, its color proves to be lighter, while the under side of its abdomen is of a rich bronze. The body is also flatter and less tapering, and the curve inclines upward, rather than downward. You perceive it would be the easiest thing in the world for the bee to sting an enemy perched upon its back. One variety, with a bright buff abdomen, is called "sweat-bee" by the laborers in the field, because it alights upon their hands and bare arms when they are sweaty, — doubtless in quest of salt. It builds its nest in little cavities in rails and posts. But the one with the bronze or copper bottom builds under a stone. I discovered its nest one day in this wise: I was lying on the ground in a field, watching a line of honey-bees to the woods, when my attention was arrested by one of these native bees flying about me in a curious, inquiring way. When it returned the third time, I said, "That bee wants something of me," which proved to be the case, for I was lying upon the entrance to its nest. On my getting up, it alighted and crawled quickly home. I turned over the stone, which was less than a foot across, when the nest was partially exposed. It consisted of four

cells, built in succession in a little tunnel that had been excavated in the ground. The cells, which were about three quarters of an inch long and half as far through, were made of sections cut from the leaf of the maple, — cut with the mandibles of the bee, which work precisely like shears. I have seen the bee at work cutting out these pieces. She moves through the leaf like the hand of the tailor through a piece of cloth. When the pattern is detached, she rolls it up, and, embracing it with her legs, flies home with it, often appearing to have a bundle disproportionately large. Each cell is made up of a dozen or more pieces: the larger ones, those that form its walls, like the walls of a paper bag, are oblong, and are turned down at one end, so as to form the bottom; not one thickness of leaf merely, but three or four thicknesses, each fragment of leaf lapping over another. When the cell is completed, it is filled about two thirds full of bee-bread, — the color of that in the comb in the hive, but not so dry, and having a sourish smell. Upon this the egg is laid, and upon this the young feed when hatched. Is the paper bag now tied up? No, it is headed up; circular bits of leaves are nicely fitted into it to the number of six or seven. They are cut without pattern or compass, and yet they are all alike, and all exactly fit. Indeed, the construction of this cell or receptacle shows great ingenuity and skill. The bee is, of course, unable

to manage a single section of a leaf large enough, when rolled up, to form it, and so is obliged to construct it of smaller pieces, such as she can carry, lapping them one over another.

A few days later I saw a smaller species carrying fragments of a yellow autumn leaf under a stone in a cornfield. On examining the place about sundown to see if the bee lodged there, I found her snugly ensconced in a little rude cell that adhered to the under side of the stone. There was no pollen in it, and I half suspected it was merely a berth in which to pass the night.

These bees do not live even in pairs, but absolutely alone. They have large baskets on their legs in which to carry pollen, an article they are very industrious in collecting.

Why the larger species above described should have waited till October to build its nest is a mystery to me. Perhaps this was the second brood of the season, or can it be that the young were not to hatch till the following spring?

THE WEATHERWISE MUSKRAT

I am more than half persuaded that the muskrat is a wise little animal, and that on the subject of the weather, especially, he possesses some secret that I should be glad to know. In the fall of 1878 I noticed that he built unusually high and massive nests. I noticed them in several different localities.

A Muskrat's Nest

In a shallow, sluggish pond by the roadside, which I used to pass daily in my walk, two nests were in process of construction throughout the month of November. The builders worked only at night, and I could see each day that the work had visibly advanced. When there was a slight skim of ice over the pond, this was broken up about the nests, with trails through it in different directions where the material had been brought. The houses were placed a little to one side of the main channel, and were constructed entirely of a species of coarse wild grass that grew all about. So far as I could see, from first to last they were solid masses of grass, as if the interior cavity or nest was to be excavated afterward, as doubtless it was. As they emerged from the pond they gradually assumed the shape of a miniature mountain, very bold and steep on the south side, and running down a long, gentle grade to the surface of the water on the north. One could see that the little architect hauled all his material up this easy slope, and thrust it out boldly around the other side. Every mouthful was distinctly defined. After they were two feet or more above the water, I expected each day to see that the finishing stroke had been given and the work brought to a close. But higher yet, said the builder. December drew near, the cold became threatening, and I was apprehensive that winter would suddenly shut down upon those unfinished nests. But the

wise rats knew better than I did; they had received private advices from headquarters, that I knew not of. Finally, about the 6th of December, the nests assumed completion; the northern incline was absorbed or carried up, and each structure became a strong, massive cone, three or four feet high, the largest nest of the kind I had ever seen. Does it mean a severe winter? I inquired. An old farmer said it meant "high water," and he was right once, at least, for in a few days afterward we had the heaviest rainfall known in this section for half a century. The creeks rose to an almost unprecedented height. The sluggish pond became a seething, turbulent water-course; gradually the angry element crept up the sides of these lake dwellings, till, when the rain ceased, about four o'clock, they showed above the flood no larger than a man's hat. During the night the channel shifted till the main current swept over them, and next day not a vestige of the nests was to be seen; they had gone downstream, as had many other dwellings of a less temporary character. The rats had built wisely, and would have been perfectly secure against any ordinary high water, but who can foresee a flood? The oldest traditions of their race did not run back to the time of such a visitation.

Nearly a week afterward another dwelling was begun, well away from the treacherous channel, but the architects did not work at it with much

heart: the material was very scarce, the ice hindered; and before the basement story was fairly finished, Winter had the pond under his lock and key.

In other localities I noticed that, where the nests were placed on the banks of streams, they were made secure against the floods by being built amid a small clump of bushes. When the fall of 1879 came, the muskrats were very tardy about beginning their house, laying the corner-stone — or the corner-sod — about December 1, and continuing the work slowly and indifferently. On the 15th of the month the nest was not yet finished. This, I said, indicates a mild winter; and, sure enough, the season was one of the mildest known for many years. The rats had little use for their house.

Again, in the fall of 1880, while the weather-wise were wagging their heads, some forecasting a mild, some a severe winter, I watched with interest for a sign from my muskrats. About November 1, a month earlier than the previous year, they began their nest, and worked at it with a will. They appeared to have just got tidings of what was coming. If I had taken the hint so palpably given, my celery would not have been frozen up in the ground, and my apples caught in unprotected places. When the cold wave struck us, about November 20, my four-legged "I-told-you-so's" had nearly completed their dwelling; it lacked only the ridge-

board, so to speak; it needed a little "topping out," to give it a finished look. But this it never got. The winter had come to stay, and it waxed more and more severe, till the unprecedented cold of the last days of December must have astonished even the wise muskrats in their snug retreat. I approached their nest at this time, a white mound upon the white, deeply frozen surface of the pond, and wondered if there was any life in that apparent sepulchre. I thrust my walking-stick sharply into it, when there was a rustle and a splash into the water, as the occupant made his escape. What a damp basement that house has, I thought, and what a pity to rout a peaceful neighbor out of his bed in this weather, and into such a state of things as this! But water does not wet the muskrat; his fur is charmed, and not a drop penetrates it.

Where the ground is favorable, the muskrats do not build these mound-like nests, but burrow into the bank a long distance, and establish their winter-quarters there.

Shall we not say, then, in view of the above facts, that this little creature is weatherwise? The hitting of the mark twice might be mere good luck; but three bull's-eyes in succession is not a mere coincidence; it is a proof of skill. The muskrat is not found in the Old World, which is a little singular, as other rats so abound there, and as those slow-going English streams especially, with their grassy

banks, are so well suited to him. The water-rat of Europe is smaller, but of similar nature and habits. The muskrat does not hibernate like some rodents, but is pretty active all winter. In December I noticed in my walk where they had made excursions of a few yards to an orchard for frozen apples. One day, along a little stream, I saw a mink track amid those of the muskrat; following it up, I presently came to blood and other marks of strife upon the snow beside a stone wall. Looking in between the stones, I found the carcass of the luckless rat, with its head and neck eaten away. The mink had made a meal of him.

CHEATING THE SQUIRRELS

For the largest and finest chestnuts I had last fall I was indebted to the gray squirrels. Walking through the early October woods one day, I came upon a place where the ground was thickly strewn with very large unopened chestnut burrs. On examination, I found that every burr had been cut square off with about an inch of the stem adhering, and not one had been left on the tree. It was not accident, then, but design. Whose design? The squirrels'. The fruit was the finest I had ever seen in the woods, and some wise squirrel had marked it for his own. The burrs were ripe, and had just begun to divide, not "threefold," but fourfold, "to show the fruit within." The squirrel that had taken

all this pains had evidently reasoned with himself thus: "Now, these are extremely fine chestnuts, and I want them; if I wait till the burrs open on the tree, the crows and jays will be sure to carry off a great many of the nuts before they fall; then, after the wind has rattled out what remain, there are the mice, the chipmunks, the red squirrels, the raccoons, the grouse, to say nothing of the boys and the pigs, to come in for their share; so I will forestall events a little: I will cut off the burrs when they have matured, and a few days of this dry October weather will cause every one of them to open on the ground; I shall be on hand in the nick of time to gather up my nuts." The squirrel, of course, had to take the chances of a prowler like myself coming along, but he had fairly stolen a march on his neighbors. As I proceeded to collect and open the burrs, I was half prepared to hear an audible protest from the trees about, for I constantly fancied myself watched by shy but jealous eyes. It is an interesting inquiry how the squirrel knew the burrs would open if left to lie on the ground a few days. Perhaps he did not know, but thought the experiment worth trying.

The gray squirrel is peculiarly an American product, and might serve very well as a national emblem. The Old World can beat us on rats and mice, but we are far ahead on squirrels, having five or six species to Europe's one.

THE SKYLARK ON THE HUDSON

My note-book of the past season is enriched with the unusual incident of an English skylark in full song above an Esopus meadow. I was poking about a marshy place in a low field one morning in early May, when, through the maze of bird-voices, — laughter of robins, call of meadowlarks, song of bobolinks, ditty of sparrows, whistle of orioles, twitter of swallows, — with which the air was filled, my ear suddenly caught an unfamiliar strain. I paused to listen: can it be possible, I thought, that I hear a lark, or am I dreaming? The song came from the air, above a wide, low meadow many hundred yards away. Withdrawing a few paces to a more elevated position, I bent my eye and ear eagerly in that direction. Yes, that unstinted, jubilant, skyward, multitudinous song can be none other than the lark's! Any of our native songsters would have ceased while I was listening. Presently I was fortunate enough to catch sight of the bird. He had reached his climax in the sky, and was hanging with quivering wings beneath a small white cloud, against which his form was clearly revealed. I had seen and heard the lark in England, else I should still have been in doubt about the identity of this singer. While I was climbing a fence I was obliged to take my eye from the bird, and when I looked again the song had ceased

and the lark had gone. I was soon in the meadow above which I had heard him, and the first bird I flushed was the lark.

How strange he looked to my eye (I use the masculine gender because it was a male bird, but an Irishman laboring in the field, to whom I related my discovery, spoke touchingly of the bird as "she," and I notice that the old poets do the same); his long, sharp wings, and something in his manner of flight suggested a shore-bird. I followed him about the meadow and got several snatches of song out of him, but not again the soaring, skyward flight and copious musical shower. By appearing to pass by, I several times got within a few yards of him; as I drew near he would squat in the stubble, and then suddenly start up, and, when fairly launched, sing briefly till he alighted again fifteen or twenty rods away. I came twice the next day and twice the next, and each time found the lark in the meadow or heard his song from the air or the sky. What was especially interesting was that the lark had "singled out with affection" one of our native birds, and the one that most resembled its kind, namely, the vesper sparrow, or grass finch. To this bird I saw him paying his addresses with the greatest assiduity. He would follow it about and hover above it, and by many gentle indirections seek to approach it. But the sparrow was shy, and evidently did not know what to make of her distin-

guished foreign lover. It would sometimes take refuge in a bush, when the lark, not being a percher, would alight upon the ground beneath it. This sparrow looks enough like the lark to be a near relation. Its color is precisely the same, and it has the distinguishing mark of the two lateral white quills in its tail. It has the same habit of skulking in the stubble or the grass as you approach; it is exclusively a field-bird, and certain of its notes might have been copied from the lark's song. In size it is about a third smaller, and this is the most marked difference between them. With the nobler bipeds, this would not have been any obstacle to the union, and in this case the lark was evidently quite ready to ignore the difference, but the sparrow persisted in saying him nay. It was doubtless this obstinacy on her part that drove the lark away, for, on the fifth day, I could not find him, and have never seen nor heard him since. I hope he found a mate somewhere, but it is quite improbable. The bird had, most likely, escaped from a cage, or, maybe, it was a survivor of a number liberated some years ago on Long Island. There is no reason why the lark should not thrive in this country as well as in Europe, and, if a few hundred were liberated in any of our fields in April or May, I have little doubt they would soon become established. And what an acquisition it would be! As a songster, the lark is deserving of all the praise that has been

bestowed upon him. He would not add so much to the harmony or melody of our bird-choir as he would add to its blithesomeness, joyousness, and power. His voice is the jocund and inspiring voice of a spring morning. It is like a ceaseless and hilarious clapping of hands. I was much interested in an account a friend gave me of the first skylark he heard while abroad. He had been so full of the sights and wonders of the Old World that he had quite forgotten the larks, when one day, as he was walking somewhere near the sea, a brown bird started up in front of him, and mounting upward began to sing. It drew his attention, and as the bird went skyward, pouring out his rapid and jubilant notes, like bees from a hive in swarming-time, the truth suddenly flashed upon the observer.

"Good heavens!" he exclaimed, "that is a skylark; there is no mistaking that bird."

It is this unique and unmistakable character of the lark's song, and its fountain-like sparkle and copiousness, that are the main sources of its charm.

NOCTURNAL INSECTS

How the nocturnal insects, the tree-crickets and katydids, fail as the heat fails! They are musicians that play fast or slow, strong or feeble, just as the heat of the season waxes or wanes; and they play as long as life lasts: when their music ceases, they are dead. The katydids begin in August, and cry

with great vigor and spirit, "Katy-did," "Katy-did," or "Katy-did n't." Toward the last of September they have taken in sail a good deal, and cry simply, "Katy," "Katy," with frequent pauses and resting-spells. In October they languidly gasp or rasp, "Kate," "Kate," "Kate," and before the end of the month they become entirely inaudible, though I suspect that if one's ear were sharp enough he might still hear a dying whisper, "Kate," "Kate." Those cousins of Katy, the little green purring tree-crickets, fail in the same way and at the same time. When their chorus is fullest, the warm autumn night fairly throbs with the soft lulling undertone. I notice that the sound is in waves or has a kind of rhythmic beat. What a gentle, unobtrusive background it forms for the sharp, reedy notes of the katydids! As the season advances, their life ebbs and ebbs: you hear one here and one there, but the air is no longer filled with that regular pulse-beat of sound. One by one the musicians cease, till, perhaps on some mild night late in October, you hear — just hear and that is all — the last feeble note of the last of these little harpers.

LOVE AND WAR AMONG THE BIRDS

In the spring movements of the fishes up the stream, toward their spawning-beds, the females are the pioneers, appearing some days in advance of

the males. With the birds the reverse is the case, the males coming a week or ten days before the females. The female fish is usually the larger and stronger, and perhaps better able to take the lead; among most reptiles the same fact holds, and throughout the insect world there is to my knowledge no exception to the rule. Among the birds, the only exception I am aware of is in the case of the birds of prey. Here the female is the larger and stronger. If you see an exceptionally large and powerful eagle, rest assured the sex is feminine. But higher in the scale the male comes to the front and leads in size and strength.

But the first familiar spring birds are cocks; hence the songs and tilts and rivalries. Hence also the fact that they are slightly in excess of the other sex, to make up for this greater exposure; apparently no courting is done in the South, and no matches are prearranged. The males leave irregularly without any hint, I suspect, to the females as to when and where they will meet them. In the case of the passenger pigeon, however, the two sexes travel together, as they do among the migrating water-fowls.

With the song-birds, love-making begins as soon as the hens are here. So far as I have observed, the robin and the bluebird win their mates by gentle and fond approaches; but certain of the sparrows, notably the little social sparrow or "chippie," ap-

pear to carry the case by storm. The same proceeding may be observed among the English sparrows, now fairly established on our soil. Two or three males beset a female, and a regular scuffle ensues. The poor bird is pulled and jostled and cajoled amid what appears to be the greatest mirth and hilarity of her audacious suitors. Her plumage is plucked and ruffled; the rivals roll over each other and over her; she extricates herself as best she can, and seems to say or scream "no," "no," to every one of them with great emphasis. What finally determines her choice would be hard to say. Our own sparrows are far less noisy and obstreperous, but the same little comedy in a milder form is often enacted among them. When two males have a tilt, they rise several feet in the air, beak to beak, and seek to deal each other blows as they mount. I have seen two male chewinks facing each other and wrathfully impelled upward in the same manner, while the female that was the bone of contention between them regarded them unconcernedly from the near bushes.

The bobolink is also a precipitate and impetuous wooer. It is a trial of speed, as if the female were to say, "Catch me and I am yours," and she scurries away with all her might and main, often with three or four dusky knights in hot pursuit. When she takes to cover in the grass, there is generally a squabble "down among the tickle-tops," or under

the buttercups, and "Winterseeble" or "Conquedle" is the winner.

In marked contrast to this violent love-making are the social and festive reunions of the goldfinches about mating time. All the birds of a neighborhood gather in a treetop, and the trial apparently becomes one of voice and song. The contest is a most friendly and happy one; all is harmony and gayety. The females chirrup and twitter, and utter their confiding "*paisley*," "*paisley*," while the more gayly dressed males squeak and warble in the most delightful strain. The matches are apparently all made and published during these gatherings; everybody is in a happy frame of mind; there is no jealousy, and no rivalry but to see who shall be gayest.

It often happens among the birds that the male has a rival after the nuptials have been celebrated and the work of housekeeping fairly begun. Every season a pair of phœbe-birds have built their nest on an elbow in the spouting beneath the eaves of my house. The past spring a belated male made desperate efforts to supplant the lawful mate and gain possession of the unfinished nest. There was a battle fought about the premises every hour in the day for at least a week. The antagonists would frequently grapple and fall to the ground, and keep their hold like two dogs. On one such occasion I came near covering them with my hat. I believe the intruder was finally worsted and withdrew from

the place. One noticeable feature of the affair was the apparent utter indifference of the female, who went on with her nest-building as if all was peace and harmony. There can be little doubt that she would have applauded and accepted the other bird had he finally been the victor.

One of the most graceful of warriors is the robin. I know few prettier sights than two males challenging and curveting about each other upon the grass in early spring. Their attentions to each other are so courteous and restrained. In alternate curves and graceful sallies, they pursue and circumvent each other. First one hops a few feet, then the other, each one standing erect in true military style while his fellow passes him and describes the segment of an ellipse about him, both uttering the while a fine complacent warble in a high but suppressed key. Are they lovers or enemies? the beholder wonders, until they make a spring and are beak to beak in the twinkling of an eye, and perhaps mount a few feet into the air, but rarely actually delivering blows upon each other. Every thrust is parried, every movement met. They follow each other with dignified composure about the fields or lawn, into trees and upon the ground, with plumage slightly spread, breasts glowing, their lisping, shrill war-song just audible. It forms on the whole the most civil and high-bred tilt to be witnessed during the season.

When the cock-robin makes love he is the same considerate, deferential, but insinuating gallant. The warble he makes use of on that occasion is the same, so far as my ear can tell, as the one he pipes when facing his rival.

FOX AND HOUND

I stood on a high hill or ridge one autumn day and saw a hound run a fox through the fields far beneath me. What odors that fox must have shaken out of himself, I thought, to be traced thus easily, and how great their specific gravity not to have been blown away like smoke by the breeze! The fox ran a long distance down the hill, keeping within a few feet of a stone wall; then turned a right angle and led off for the mountain, across a plowed field and a succession of pasture lands. In about fifteen minutes the hound came in full blast with her nose in the air, and never once did she put it to the ground while in my sight. When she came to the stone wall, she took the other side from that taken by the fox, and kept about the same distance from it, being thus separated several yards from his track, with the fence between her and it. At the point where the fox turned sharply to the left, the hound overshot a few yards, then wheeled, and, feeling the air a moment with her nose, took up the scent again and was off on his trail as unerringly as Fate. It seemed as if the fox

must have sowed himself broadcast as he went along, and that his scent was so rank and heavy that it settled in the hollows and clung tenaciously to the bushes and crevices in the fence. I thought I ought to have caught a remnant of it as I passed that way some minutes later, but I did not. But I suppose it was not that the light-footed fox so impressed himself upon the ground he ran over, but that the sense of the hound was so keen. To her sensitive nose these tracks steamed like hot cakes, and they would not have cooled off so as to be undistinguishable for several hours. For the time being, she had but one sense: her whole soul was concentrated in her nose.

It is amusing, when the hunter starts out of a winter morning, to see his hound probe the old tracks to determine how recent they are. He sinks his nose down deep in the snow so as to exclude the air from above, then draws a long full breath, giving sometimes an audible snort. If there remains the least effluvium of the fox, the hound will detect it. If it be very slight, it only sets his tail wagging; if it be strong, it unloosens his tongue.

Such things remind one of the waste, the friction, that is going on all about us, even when the wheels of life run the most smoothly. A fox cannot trip along the top of a stone wall so lightly but that he will leave enough of himself to betray his course to the hound for hours afterward. When the boys

play "hare and hounds," the hare scatters bits of paper to give a clew to the pursuers, but he scatters himself much more freely if only our sight and scent were sharp enough to detect the fragments. Even the fish leave a trail in the water, and it is said the otter will pursue them by it. The birds make a track in the air, only their enemies hunt by sight rather than by scent. The fox baffles the hound most upon a hard crust of frozen snow; the scent will not hold to the smooth, bead-like granules.

Judged by the eye alone, the fox is the lightest and most buoyant creature that runs. His soft wrapping of fur conceals the muscular play and effort that is so obvious in the hound that pursues him, and he comes bounding along precisely as if blown by a gentle wind. His massive tail is carried as if it floated upon the air by its own lightness.

The hound is not remarkable for his fleetness, but how he will hang! — often running late into the night, and sometimes till morning, from ridge to ridge, from peak to peak; now on the mountain, now crossing the valley, now playing about a large slope of uplying pasture fields. At times the fox has a pretty well-defined orbit, and the hunter knows where to intercept him. Again, he leads off like a comet, quite beyond the system of hills and ridges upon which he was started, and his return is entirely a matter of conjecture; but if the day be not more than half spent, the chances are that the

fox will be back before night, though the sportsman's patience seldom holds out that long.

The hound is a most interesting dog. How solemn and long-visaged he is, — how peaceful and well-disposed! He is the Quaker among dogs. All the viciousness and currishness seem to have been weeded out of him; he seldom quarrels, or fights, or plays, like other dogs. Two strange hounds, meeting for the first time, behave as civilly toward each other as two men. I know a hound that has an ancient, wrinkled, human, far-away look that reminds one of the bust of Homer among the Elgin marbles. He looks like the mountains toward which his heart yearns so much.

The hound is a great puzzle to the farm dog; the latter, attracted by his baying, comes barking and snarling up through the fields, bent on picking a quarrel; he intercepts the hound, snubs and insults and annoys him in every way possible, but the hound heeds him not: if the dog attacks him, he gets away as best he can, and goes on with the trail; the cur bristles and barks and struts about for a while, then goes back to the house, evidently thinking the hound a lunatic, which he is for the time being, — a monomaniac, the slave and victim of one idea. I saw the master of a hound one day arrest him in full course, to give one of the hunters time to get to a certain runway; the dog cried and struggled to free himself, and would listen to neither

threats nor caresses. Knowing he must be hungry, I offered him my lunch, but he would not touch it. I put it in his mouth, but he threw it contemptuously from him. We coaxed and petted and reassured him, but he was under a spell; he was bereft of all thought or desire but the one passion to pursue that trail.

THE TREE-TOAD

We can boast a greater assortment of toads and frogs in this country than can any other land. What a chorus goes up from our ponds and marshes in spring! The like of it cannot be heard anywhere else under the sun. In Europe it would certainly have made an impression upon the literature. An attentive ear will detect first one variety, then another, each occupying the stage from three or four days to a week. The latter part of April, when the little peeping frogs are in full chorus, one comes upon places, in his drives or walks late in the day, where the air fairly palpitates with sound; from every little marshy hollow and spring run there rises an impenetrable maze or cloud of shrill musical voices. After the peepers, the next frog to appear is the clucking frog, a rather small, dark-brown frog, with a harsh, clucking note, which later in the season becomes the well-known brown wood-frog. Their chorus is heard for a few days only, while their spawn is being deposited. In

less than a week it ceases, and I never hear them again till the next April. As the weather gets warmer, the toads take to the water, and set up that long-drawn musical tr-r-r-r-r-r-r-ing note. The voice of the bullfrog, who calls, according to the boys, "jug o' rum," "jug o' rum," "pull the plug," "pull the plug," is not heard much before June. The peepers, the clucking frog, and the bullfrog are the only ones that call in chorus. The most interesting and the most shy and withdrawn of all our frogs and toads is the tree-toad, — the creature that, from the old apple or cherry tree, or red cedar, announces the approach of rain, and baffles your every effort to see or discover it. It has not (as some people imagine) exactly the power of the chameleon to render itself invisible by assuming the color of the object it perches upon, but it sits very close and still, and its mottled back, of different shades of ashen gray, blends it perfectly with the bark of nearly every tree. The only change in its color I have ever noticed is that it is lighter on a light-colored tree, like the beech or soft maple, and darker on the apple, or cedar, or pine. Then it is usually hidden in some cavity or hollow of the tree, when its voice appears to come from the outside.

Most of my observations upon the habits of this creature run counter to the authorities I have been able to consult on the subject.

In the first place, the tree-toad is nocturnal in its habits, like the common toad. By day it remains motionless and concealed ; by night it is as alert and active as an owl, feeding and moving about from tree to tree. I have never known one to change its position by day, and never knew one to fail to do so by night. Last summer one was discovered sitting against a window upon a climbing rose-bush. The house had not been occupied for some days, and when the curtain was drawn the toad was discovered and closely observed. His light gray color harmonized perfectly with the unpainted woodwork of the house. During the day he never moved a muscle, but next morning he was gone. A friend of mine caught one, and placed it under a tumbler on his table at night, leaving the edge of the glass raised about the eighth of an inch to admit the air. During the night he was awakened by a strange sound in his room. Pat, pat, pat went some object, now here, now there, among the furniture, or upon the walls and doors. On investigating the matter, he found that by some means his tree-toad had escaped from under the glass, and was leaping in a very lively manner about the room, producing the sound he had heard when it alighted upon the door, or wall, or other perpendicular surface.

The home of the tree-toad, I am convinced, is usually a hollow limb or other cavity in the tree;

here he makes his headquarters, and passes most of the day. For two years a pair of them frequented an old apple-tree near my house, occasionally sitting at the mouth of a cavity that led into a large branch, but usually their voices were heard from within the cavity itself. On one occasion, while walking in the woods in early May, I heard the voice of a tree-toad but a few yards from me. Cautiously following up the sound, I decided, after some delay, that it proceeded from the trunk of a small soft maple; the tree was hollow, the entrance to the interior being a few feet from the ground. I could not discover the toad, but was so convinced that it was concealed in the tree, that I stopped up the hole, determined to return with an axe, when I had time, and cut the trunk open. A week elapsed before I again went to the woods, when, on cutting into the cavity of the tree, I found a pair of tree-toads, male and female, and a large, shelless snail. Whether the presence of the snail was accidental, or whether these creatures associated together for some purpose, I do not know. The male toad was easily distinguished from the female by its large head, and more thin, slender, and angular body. The female was much the more beautiful, both in form and color. The cavity, which was long and irregular, was evidently their home; it had been nicely cleaned out, and was a snug, safe apartment.

The finding of the two sexes together, under such

circumstances and at that time of the year, suggests the inquiry whether they do not breed away from the water, as others of our toads are known at times to do, and thus skip the tadpole state. I have several times seen the ground, after a June shower, swarming with minute toads, out to wet their jackets. Some of them were no larger than crickets. They were a long distance from the water, and had evidently been hatched on the land, and had never been polliwogs. Whether the tree-toad breeds in trees or on the land, yet remains to be determined.[1]

Another fact in the natural history of this creature, not set down in the books, is that they pass the winter in a torpid state in the ground, or in stumps and hollow trees, instead of in the mud of ponds and marshes, like true frogs, as we have been taught. The pair in the old apple-tree above referred to, I heard on a warm, moist day late in November, and again early in April. On the latter occasion, I reached my hand down into the cavity of the tree and took out one of the toads. It was the first I had heard, and I am convinced it had passed the winter in the moist, mud-like mass of

[1] It now (1895) seems well established that both common toads and tree-toads pass the first period of their lives in water as tadpoles, and that both undergo their metamorphosis when very small. As soon as the change is effected, the little toads leave the water and scatter themselves over the country with remarkable rapidity, traveling chiefly by night, but showing themselves in the daytime after showers.

rotten wood that partially filled the cavity. It had a fresh, delicate tint, as if it had not before seen the light that spring. The president of a Western college writes in "Science News" that two of his students found one in the winter in an old stump which they demolished; and a person whose veracity I have no reason to doubt sends me a specimen that he dug out of the ground in December while hunting for Indian relics. The place was on the top of a hill, under a pine-tree. The ground was frozen on the surface, and the toad was, of course, torpid.

During the present season, I obtained additional proof of the fact that the tree-toad hibernates on dry land. The 12th of November was a warm, spring-like day; wind southwest, with slight rain in the afternoon, — just the day to bring things out of their winter retreats. As I was about to enter my door at dusk, my eye fell upon what proved to be the large tree-toad in question, sitting on some low stone-work at the foot of a terrace a few feet from the house. I paused to observe his movements. Presently he started on his travels across the yard toward the lawn in front. He leaped about three feet at a time, with long pauses between each leap. For fear of losing him as it grew darker, I captured him, and kept him under the coal sieve till morning. He was very active at night trying to escape. In the morning, I amused myself with

him for some time in the kitchen. I found he could adhere to a window-pane, but could not ascend it; gradually his hold yielded, till he sprang off on the casing. I observed that, in sitting upon the floor or upon the ground, he avoided bringing his toes in contact with the surface, as if they were too tender or delicate for such coarse uses, but sat upon the hind part of his feet. Said toes had a very bungling, awkward appearance at such times; they looked like hands encased in gray woolen gloves much too large for them. Their round, flattened ends, especially when not in use, had a comically helpless look.

After a while I let my prisoner escape into the open air. The weather had grown much colder, and there was a hint of coming frost. The toad took the hint at once, and, after hopping a few yards from the door to the edge of a grassy bank, began to prepare for winter. It was a curious proceeding. He went into the ground backward, elbowing himself through the turf with the sharp joints of his hind legs, and going down in a spiral manner. His progress was very slow: at night I could still see him by lifting the grass; and as the weather changed again to warm, with southerly winds before morning, he stopped digging entirely. The next day I took him out, and put him into a bottomless tub sunk into the ground and filled with soft earth, leaves, and leaf mould, where he passed the win-

ter safely, and came out fresh and bright in the spring.

The little peeping frogs lead a sort of arboreal life, too, a part of the season, but they are quite different from the true tree-toads above described. They appear to leave the marshes in May, and to take to the woods or bushes. I have never seen them on trees, but upon low shrubs. They do not seem to be climbers, but perchers. I caught one in May, in some low bushes a few rods from the swamp. It perched upon the small twigs like a bird, and would leap about among them, sure of its hold every time. I was first attracted by its piping. I brought it home, and it piped for one twilight in a bush in my yard and then was gone. I do not think they pipe much after leaving the water. I have found them early in April upon the ground in the woods, and again late in the fall.

In November, 1879, the warm, moist weather brought them out in numbers. They were hopping about everywhere upon the fallen leaves. Within a small space I captured six. Some of them were the hue of the tan-colored leaves, probably Pickering's hyla, and some were darker, according to the locality. Of course they do not go to the marshes to winter, else they would not wait so late in the season. I examined the ponds and marshes, and found bullfrogs buried in the mud, but no peepers.

THE SPRING BIRDS

We never know the precise time the birds leave us in the fall: they do not go suddenly; their departure is like that of an army of occupation in no hurry to be off; they keep going and going, and we hardly know when the last straggler is gone. Not so their return in the spring: then it is like an army of invasion, and we know the very day when the first scouts appear. It is a memorable event. Indeed, it is always a surprise to me, and one of the compensations of our abrupt and changeable climate, this suddenness with which the birds come in spring, — in fact, with which spring itself comes, alighting, maybe, to tarry only a day or two, but real and genuine, for all that. When March arrives, we do not know what a day may bring forth. It is like turning over a leaf, a new chapter of startling incidents lying just on the other side.

A few days ago, Winter had not perceptibly relaxed his hold; then suddenly he began to soften a little, and a warm haze to creep up from the south, but not a solitary bird, save the winter residents, was to be seen or heard. Next day the sun seemed to have drawn immensely nearer; his beams were full of power; and we said, "Behold the first spring morning! And, as if to make the prophecy complete, there is the note of a bluebird, and it is

not yet nine o'clock." Then others, and still others, were heard. How did they know it was going to be a suitable day for them to put in an appearance? It seemed as if they must have been waiting somewhere close by for the first warm day, like actors behind the scenes, — the moment the curtain was lifted, they were ready and rushed upon the stage. The third warm day, and, behold, all the principal performers come rushing in, — song sparrows, cow blackbirds, grackles, the meadowlark, cedar-birds, the phœbe-bird, and, hark! what bird laughter was that? the robins, hurrah! the robins! Not two or three, but a score or two of them; they are following the river valley north, and they stop in the trees from time to time, and give vent to their gladness. It is like a summer picnic of school-children suddenly let loose in a wood; they sing, shout, whistle, squeal, call, in the most blithesome strains. The warm wave has brought the birds upon its crest; or some barrier has given way, the levee of winter has broken, and spring comes like an inundation. No doubt, the snow and the frost will stop the crevasse again, but only for a brief season.

Between the 10th and the 15th of March, in the Middle and Eastern States, we are pretty sure to have one or more of these spring days. Bright days, clear days, may have been plenty all winter; but the air was a desert, the sky transparent ice;

now the sky is full of radiant warmth, and the air of a half-articulate murmur and awakening. How still the morning is! It is at such times that we discover what music there is in the souls of the little slate-colored snowbirds. How they squeal, and chatter, and chirp, and trill, always in scattered troops of fifty or a hundred, filling the air with a fine sibilant chorus! That joyous and child-like "chew," "chew," "chew" is very expressive. Through this medley of finer songs and calls, there is shot, from time to time, the clear, strong note of the meadowlark. It comes from some field or tree farther away, and cleaves the air like an arrow. The reason why the birds always appear first in the morning, and not in the afternoon, is that in migrating they travel by night, and stop and feed and disport themselves by day. They come by the owl train, and are here before we are up in the morning.

A LONE QUEEN

Once, while walking in the woods, I saw quite a large nest in the top of a pine-tree. On climbing up to it, I found that it had originally been a crow's nest. Then a red squirrel had appropriated it; he had filled up the cavity with the fine inner bark of the red cedar, and made himself a dome-shaped nest upon the crow's foundation of coarse twigs. It is probable that the flying squirrel, or the white-footed mouse, had been the next tenants, for the finish of

the interior suggested their dainty taste. But when I found it, its sole occupant was a bumblebee, — the mother or queen bee, just planting her colony. She buzzed very loud and complainingly, and stuck up her legs in protest against my rude inquisitiveness, but refused to vacate the premises. She had only one sack or cell constructed, in which she had deposited her first egg, and, beside that, a large loaf of bread, probably to feed the young brood with, as they should be hatched. It looked like Boston brown bread; but I examined it and found it to be a mass of dark brown pollen, quite soft and pasty. In fact, it was unleavened bread, and had not been got at the baker's. A few weeks later, if no accident befell her, she had a good working colony of a dozen or more bees.

This was not an unusual incident. Our bumblebee, so far as I have observed, invariably appropriates a mouse-nest for the site of its colony, never excavating a place in the ground, nor conveying materials for a nest, to be lined with wax, like the European species. Many other of our wild creatures take up with the leavings of their betters or strongers. Neither the skunk nor the rabbit digs his own hole, but takes up with that of a woodchuck, or else hunts out a natural den among the rocks. In England the rabbit burrows in the ground to such an extent that in places the earth is honeycombed by them, and the walker steps through

the surface into their galleries. Our white-footed mouse has been known to take up his abode in a hornet's nest, furnishing the interior to suit his taste. A few of our birds also avail themselves of the work of others, as the titmouse, the brown creeper, the bluebird, and the house wren. But in every case they refurnish the tenement: the wren carries feathers into the cavity excavated by the woodpeckers, the bluebird carries in fine straws, and the chickadee lays down a fine wool mat upon the floors. When the high-hole occupies the same cavity another year, he deepens and enlarges it; the phœbe-bird, in taking up her old nest, puts in a new lining; so does the robin; but cases of reoccupancy of an old nest by the last-named birds are rare.

A BOLD LEAPER

One reason, doubtless, why squirrels are so bold and reckless in leaping through the trees is, that, if they miss their hold and fall, they sustain no injury. Every species of tree squirrel seems to be capable of a sort of rudimentary flying, — at least of making itself into a parachute, so as to ease or break a fall or a leap from a great height. The so-called flying squirrel does this the most perfectly. It opens its furry vestments, leaps into the air, and sails down the steep incline from the top of one tree to the foot of the next as lightly as a bird. But other

squirrels know the same trick, only their coat-skirts are not so broad. One day my dog treed a red squirrel in a tall hickory that stood in a meadow on the side of a steep hill. To see what the squirrel would do when closely pressed, I climbed the tree. As I drew near, he took refuge in the topmost branch, and then, as I came on, he boldly leaped into the air, spread himself out upon it, and, with a quick, tremulous motion of his tail and legs, descended quite slowly and landed upon the ground thirty feet below me, apparently none the worse for the leap, for he ran with great speed and escaped the dog in another tree.

A recent American traveler in Mexico gives a still more striking instance of this power of squirrels partially to neutralize the force of gravity when leaping or falling through the air. Some boys had caught a Mexican black squirrel, nearly as large as a cat. It had escaped from them once, and, when pursued, had taken a leap of sixty feet, from the top of a pine-tree down upon the roof of a house, without injury. This feat had led the grandmother of one of the boys to declare that the squirrel was bewitched, and the boys proposed to put the matter to further test by throwing the squirrel down a precipice six hundred feet high. Our traveler interfered, to see that the squirrel had fair play. The prisoner was conveyed in a pillow-slip to the edge of the cliff, and the slip opened, so that he might

have his choice, whether to remain a captive or to take the leap. He looked down the awful abyss, and then back and sidewise, — his eyes glistening, his form crouching. Seeing no escape in any other direction, "he took a flying leap into space, and fluttered rather than fell into the abyss below. His legs began to work like those of a swimming poodle-dog, but quicker and quicker, while his tail, slightly elevated, spread out like a feather fan. A rabbit of the same weight would have made the trip in about twelve seconds; the squirrel protracted it for more than half a minute," and "landed on a ledge of limestone, where we could see him plainly squat on his hind legs and smooth his ruffled fur, after which he made for the creek with a flourish of his tail, took a good drink, and scampered away into the willow thicket."

The story at first blush seems incredible, but I have no doubt our red squirrel would have made the leap safely; then why not the great black squirrel, since its parachute would be proportionately large?

The tails of the squirrels are broad and long and flat, not short and small like those of gophers, chipmunks, woodchucks, and other ground rodents, and when they leap or fall through the air the tail is arched and rapidly vibrates. A squirrel's tail, therefore, is something more than ornament, something more than a flag; it not only aids him in flying,

but it serves as a cloak, which he wraps about him when he sleeps. Thus, some animals put their tails to various uses, while others seem to have no use for them whatever. What use for a tail has a woodchuck, or a weasel, or a mouse? Has not the mouse yet learned that it could get in its hole sooner if it had no tail? The mole and the meadow mouse have very short tails. Rats, no doubt, put their tails to various uses. The rabbit has no use for a tail, — it would be in its way; while its manner of sleeping is such that it does not need a tail to tuck itself up with, as do the coon and the fox. The dog talks with his tail; the tail of the possum is prehensile; the porcupine uses his tail in climbing and for defense; the beaver as a tool or trowel; while the tail of the skunk serves as a screen behind which it masks its terrible battery.

THE WOODCHUCK

Writers upon rural England and her familiar natural history make no mention of the marmot or woodchuck. In Europe this animal seems to be confined to the high mountainous districts, as on our Pacific slope, burrowing near the snow-line. It is more social or gregarious than the American species, living in large families like our prairie dog. In the Middle and Eastern States our woodchuck takes the place, in some respects, of the English rabbit, burrowing in every hillside and under every

stone wall and jutting ledge and large boulder, from whence it makes raids upon the grass and clover and sometimes upon the garden vegetables. It is quite solitary in its habits, seldom more than one inhabiting the same den, unless it be a mother and her young. It is not now so much a *wood*chuck as a *field*chuck. Occasionally, however, one seems to prefer the woods, and is not seduced by the sunny slopes and the succulent grass, but feeds, as did his fathers before him, upon roots and twigs, the bark of young trees, and upon various wood plants.

One summer day, as I was swimming across a broad, deep pool in the creek in a secluded place in the woods, I saw one of these sylvan chucks amid the rocks but a few feet from the edge of the water where I proposed to touch. He saw my approach, but doubtless took me for some water-fowl, or for some cousin of his of the muskrat tribe; for he went on with his feeding, and regarded me not till I paused within ten feet of him and lifted myself up. Then he did not know me, having, perhaps, never seen Adam in his simplicity, but he twisted his nose around to catch my scent; and the moment he had done so he sprang like a jumping-jack and rushed into his den with the utmost precipitation.

The woodchuck is the true serf among our animals; he belongs to the soil, and savors of it. He

is of the earth, earthy. There is generally a decided odor about his dens and lurking-places, but it is not at all disagreeable in the clover-scented air; and his shrill whistle, as he takes to his hole or defies the farm dog from the interior of the stone wall, is a pleasant summer sound. In form and movement the woodchuck is not captivating. His body is heavy and flabby. Indeed, such a flaccid, fluid, pouchy carcass I have never before seen. It has absolutely no muscular tension or rigidity, but is as baggy and shaky as a skin filled with water. Let the rifleman shoot one while it lies basking on a sideling rock, and its body slumps off, and rolls and spills down the hill, as if it were a mass of bowels only. The legs of the woodchuck are short and stout, and made for digging rather than running. The latter operation he performs by short leaps, his belly scarcely clearing the ground. For a short distance he can make very good time, but he seldom trusts himself far from his hole, and, when surprised in that predicament, makes little effort to escape, but, grating his teeth, looks the danger squarely in the face.

I knew a farmer in New York who had a very large bob-tailed churn-dog by the name of Cuff. The farmer kept a large dairy and made a great deal of butter, and it was the business of Cuff to spend nearly the half of each summer day treading the endless round of the churning-machine. During

the remainder of the day he had plenty of time to sleep and rest, and sit on his hips and survey the landscape. One day, sitting thus, he discovered a woodchuck about forty rods from the house, on a steep sidehill, feeding about near his hole, which was beneath a large rock. The old dog, forgetting his stiffness, and remembering the fun he had had with woodchucks in his earlier days, started off at his highest speed, vainly hoping to catch this one before he could get to his hole. But the woodchuck seeing the dog come laboring up the hill, sprang to the mouth of his den, and, when his pursuer was only a few rods off, whistled tauntingly and went in. This occurred several times, the old dog marching up the hill, and then marching down again, having had his labor for his pains. I suspect that he revolved the subject in his mind while he revolved the great wheel of the churning-machine, and that some turn or other brought him a happy thought, for next time he showed himself a strategist. Instead of giving chase to the woodchuck, when first discovered, he crouched down to the ground, and, resting his head on his paws, watched him. The woodchuck kept working away from his hole, lured by the tender clover, but, not unmindful of his safety, lifted himself up on his haunches every few moments and surveyed the approaches. Presently, after the woodchuck had let himself down from one of these attitudes of

observation and resumed his feeding, Cuff started swiftly but stealthily up the hill, precisely in the attitude of a cat when she is stalking a bird. When the woodchuck rose up again, Cuff was perfectly motionless and half hid by the grass. When he again resumed his clover, Cuff sped up the hill as before, this time crossing a fence, but in a low place, and so nimbly that he was not discovered. Again the woodchuck was on the outlook, again Cuff was motionless and hugging the ground. As the dog neared his victim he was partially hidden by a swell in the earth, but still the woodchuck from his outlook reported "All right," when Cuff, having not twice as far to run as the chuck, threw all stealthiness aside and rushed directly for the hole. At that moment the woodchuck discovered his danger, and, seeing that it was a race for life, leaped as I never saw marmot leap before. But he was two seconds too late, his retreat was cut off, and the powerful jaws of the old dog closed upon him.

The next season Cuff tried the same tactics again with like success, but when the third woodchuck had taken up his abode at the fatal hole, the old churner's wits and strength had begun to fail him, and he was baffled in each attempt to capture the animal.

The woodchuck always burrows on a sidehill. This enables him to guard against being drowned

out, by making the termination of the hole higher than the entrance. He digs in slantingly for about two or three feet, then makes a sharp upward turn and keeps nearly parallel with the surface of the ground for a distance of eight or ten feet farther, according to the grade. Here he makes his nest and passes the winter, holing up in October or November and coming out again in April. This is a long sleep, and is rendered possible only by the amount of fat with which the system has become stored during the summer. The fire of life still burns, but very faintly and slowly, as with the draughts all closed and the ashes heaped up. Respiration is continued, but at longer intervals, and all the vital processes are nearly at a standstill. Dig one out during hibernation (Audubon did so), and you find it a mere inanimate ball, that suffers itself to be moved and rolled about without showing signs of awakening. But bring it in by the fire, and it presently unrolls and opens its eyes, and crawls feebly about, and if left to itself will seek some dark hole or corner, roll itself up again, and resume its former condition.

A GOOD SEASON FOR THE BIRDS

The season of 1880 seems to have been exceptionally favorable to the birds. The warm, early spring, the absence of April snows and of long, cold rains in May and June, — indeed, the excep-

tional heat and dryness of these months, and the freedom from violent storms and tempests throughout the summer, — all worked together for the good of the birds. Their nests were not broken up or torn from the trees, nor their young chilled and destroyed by the wet and the cold. The drenching, protracted rains that make the farmer's seed rot or lie dormant in the ground in May or June, and the summer tempests that uproot the trees or cause them to lash and bruise their foliage, always bring disaster to the birds. As a result of our immunity from these things the past season, the small birds in the fall were perhaps never more abundant. Indeed, I never remember to have seen so many of certain kinds, notably the social and the bush sparrows. The latter literally swarmed in the fields and vineyards; and as it happened that for the first time a large number of grapes were destroyed by birds, the little sparrow, in some localities, was accused of being the depredator. But he is innocent. He never touches fruit of any kind, but lives upon seeds and insects. What attracted this sparrow to the vineyards in such numbers was mainly the covert they afforded from small hawks, and probably also the seeds of various weeds that had been allowed to ripen there. The grape-destroyer was a bird of another color, namely, the Baltimore oriole. One fruit-grower on the Hudson told me he lost at least a ton of grapes by the birds,

and in the western part of New York and in Ohio and in Canada, I hear the vineyards suffered severely from the depredations of the oriole. The oriole has a sharp, dagger-like bill, and he seems to be learning rapidly how easily he can puncture fruit with it. He has come to be about the worst cherry bird we have. He takes the worm first, and then he takes the cherry the worm was after, or rather he bleeds it ; as with the grapes, he carries none away with him, but wounds them all. He is welcome to all the fruit he can eat, but why should he murder every cherry on the tree, or every grape in the cluster? He is as wanton as a sheep-killing dog, that will not stop with enough, but slaughters every ewe in the flock. The oriole is peculiarly exempt from the dangers that beset most of our birds: its nest is all but impervious to the rain, and the squirrel, or the jay, or the crow cannot rob it without great difficulty. It is a pocket which it would not be prudent for either jay or squirrel to attempt to explore when the owner, with his dagger-like beak, is about ; and the crow cannot alight upon the slender, swaying branch from which it is usually pendent. Hence the orioles are doubtless greatly on the increase.

There has been an unusual number of shrikes the past fall and winter; like the hawks, they follow in the wake of the little birds and prey upon them. Some seasons pass and I never see a shrike. This

year I have seen at least a dozen while passing along the road. One day I saw one carrying its prey in its feet, — a performance which I supposed it incapable of, as it is not equipped for this business like a rapacious bird, but has feet like a robin. One wintry evening, near sunset, I saw one alight on the top of a tree by the roadside, with some small object in its beak. I paused to observe it. Presently it flew down into a scrubby old apple-tree, and attempted to impale the object upon a thorn or twig. It was occupied in this way some moments, no twig or knob proving quite satisfactory. A little screech owl was evidently watching the proceedings from his doorway in the trunk of a decayed apple-tree ten or a dozen rods distant. Twilight was just falling, and the owl had come up from his snug retreat in the hollow trunk, and was waiting for the darkness to deepen before venturing forth. I was first advised of his presence by seeing him approaching swiftly on silent, level wing. The shrike did not see him till the owl was almost within the branches. He then dropped his game, which proved to be a part of a shrew-mouse, and darted back into the thick cover, uttering a loud, discordant squawk, as one would say, "Scat! scat! scat!" The owl alighted, and was, perhaps, looking about him for the shrike's impaled game, when I drew near. On seeing me, he reversed his movement precipitately, flew straight back to the old tree, and alighted in

the entrance to the cavity. As I approached, he did not so much seem to move as to diminish in size, like an object dwindling in the distance; he depressed his plumage, and, with his eye fixed upon me, began slowly to back and sidle into his retreat till he faded from my sight. The shrike wiped his beak upon the branches, cast an eye down at me and at his lost mouse, and then flew away. He was a remarkably fine specimen, — his breast and under parts as white as snow, and his coat of black and ashen gray appearing very bright and fresh. A few nights afterward, as I passed that way, I saw the little owl again sitting in his doorway, waiting for the twilight to deepen, and undisturbed by the passers-by; but when I paused to observe him, he saw that he was discovered, and he slunk back into his den as on the former occasion.

SHAKESPEARE'S NATURAL HISTORY

It is surprising that so profuse and prodigal a poet as Shakespeare, and one so bold in his dealings with human nature, should seldom or never make a mistake in his dealings with physical nature, or take an unwarranted liberty with her. True it is that his allusions to nature are always incidental, — never his main purpose or theme, as with many later poets; yet his accuracy and closeness to fact, and his wide and various knowledge of unbookish

things, are seen in his light "touch and go" phrases and comparisons as clearly as in his more deliberate and central work.

In "Much Ado about Nothing," *Benedick* says to *Margaret:* —

"Thy wit is as quick as the greyhound's mouth — it catches."

One marked difference between the greyhound and all other hounds and dogs is, that it can pick up its game while running at full speed, a feat that no other dog can do. The foxhound, or farm dog, will run over a fox or a rabbit many times without being able to seize it.

In "Twelfth Night" the clown tells *Viola* that

"Fools are as like husbands as pilchards are to herrings — the husband 's the bigger."

The pilchard closely resembles the herring, but is thicker and heavier, with larger scales.

In the same play, *Maria*, seeing *Malvolio* coming, says: —

"Here comes the trout that must be caught with tickling."

Shakespeare, then, knew that fact so well known to poachers, and known also to many an American schoolboy, namely, that a trout likes to be tickled, or behaves as if he did, and that by gently tickling his sides and belly you can so mesmerize him, as it

were, that he will allow you to get your hands in position to clasp him firmly. The British poacher takes the jack by the same tactics: he tickles the jack on the belly; the fish slowly rises in the water till it comes near the surface, when, the poacher having insinuated both hands under him, he is suddenly scooped out and thrown upon the land.

Indeed, Shakespeare seems to have known intimately the ways and habits of most of the wild creatures of Britain. He had the kind of knowledge of them that only the countryman has. In "As You Like It," *Jaques* tells *Amiens*: —

"I can suck melancholy out of a song as a weasel sucks eggs."

Every gamekeeper, and every farmer for that matter, knows how destructive the weasel and its kind are to birds' eggs, and to the eggs of game-birds and of domestic fowls.

In "Love's Labor's Lost," *Biron* says of *Boyet*: —

"This fellow picks up wit as pigeons peas."

Pigeons do not pick up peas in this country, but they do in England, and are often very damaging to the farmer on that account. Shakespeare knew also the peculiar manner in which they feed their young, — a manner that has perhaps given rise to the expression "sucking dove." In "As You Like It" is this passage: —

"*Celia.* Here comes Monsieur Le Beau.

"*Rosalind.* With his mouth full of news.

"*Celia.* Which he will put on us as pigeons feed their young.

"*Rosalind.* Then shall we be news-crammed."

When the mother pigeon feeds her young she brings the food, not in her beak like other birds, but in her crop; she places her beak between the open mandibles of her young, and fairly crams the food, which is delivered by a peculiar pumping movement, down its throat. She furnishes a capital illustration of the eager, persistent newsmonger.

"Out of their burrows like rabbits after rain" is a comparison that occurs in "Coriolanus." In our Northern or New England States we should have to substitute woodchucks for rabbits, as our rabbits do not burrow, but sit all day in their forms under a bush or amid the weeds, and as they are not seen moving about after a rain, or at all by day; but in England Shakespeare's line is exactly descriptive.

Says *Bottom* to the fairy *Cobweb* in "Midsummer Night's Dream:" —

"Mounsieur Cobweb; good mounsieur, get you your weapons in your hand, and kill me a red-hipp'd humble-bee on the top of a thistle, and, good mounsieur, bring me the honey-bag."

This command might be executed in this country, for we have the "red-hipp'd humble-bee;" and we

have the thistle, and there is no more likely place to look for the humblebee in midsummer than on a thistle-blossom.

But the following picture of a "wet spell" is more English than American: —

"The ox hath therefore stretch'd his yoke in vain,
The plowman lost his sweat; and the green corn
Hath rotted ere his youth attain'd a beard;
The fold stands empty in the drowned field,
And crows are fatted with the murrain flock."

Shakespeare knew the birds and wild fowl, and knew them perhaps as a hunter, as well as a poet. At least this passage would indicate as much: —

"As wild geese that the creeping fowler eye,
Or russet-pated choughs, many in sort,
Rising and cawing at the gun's report,
Sever themselves and madly sweep the sky."

In calling the choughs "russet-pated" he makes the bill tinge the whole head, or perhaps gives the effect of the birds' markings when seen at a distance; the bill is red, the head is black. The chough is a species of crow.

A poet must know the birds well to make one of his characters say, when he had underestimated a man, "I took this lark for a bunting," as *Lafeu* says of *Parolles* in "All's Well that Ends Well." The English bunting is a field-bird like the lark, and much resembles the latter in form and color, but

is far inferior as a songster. Indeed, Shakespeare shows his familiarity with nearly all the British birds.

"The ousel-cock, so black of hue,
With orange-tawny bill,
The throstle with his note so true,
The wren with little quill.

"The finch, the sparrow, and the lark,
The plain-song cuckoo gray,
Whose note full many a man doth mark,
And dares not answer nay."

In "Much Ado about Nothing" we get a glimpse of the lapwing: —

"For look where Beatrice, like a lapwing, runs
Close by the ground, to hear our conference."

The lapwing is a kind of plover, and is very swift of foot. When trying to avoid being seen they run rapidly with depressed heads, or "close by the ground," as the poet puts it. In the same scene, *Hero* says of *Ursula:* —

"I know her spirits are as coy and wild
As haggards of the rock."

The haggard falcon is a species of hawk found in North Wales and in Scotland. It breeds on high shelving cliffs and precipitous rocks. Had Shakespeare been an "amateur poacher" in his youth?

He had a poacher's knowledge of the wild creatures. He knew how fresh the snake appears after it has cast its skin; how the hedgehog makes himself up into a ball and leaves his "prickles" in whatever touches him; how the butterfly comes from the grub; how the fox carries the goose; where the squirrel hides his store; where the martlet builds its nest, etc.

"Now is the woodcock near the gin,"

says *Fabian*, in "Twelfth Night," and

"Stalk on, stalk on; the fowl sits,"

says *Claudio* to *Leonato*, in "Much Ado."

"Instruct thee how
To snare the nimble marmozet,"

says *Caliban*, in "The Tempest." Sings the fool in "Lear:" —

"The hedge-sparrow fed the cuckoo so long
That it had it head bit off by it young."

The hedge-sparrow is one of the favorite birds upon which the European cuckoo imposes the rearing of its young. If Shakespeare had made the house sparrow, or the blackbird, or the bunting, or any of the granivorous, hard-billed birds, the foster-parent of the cuckoo, his natural history would have been at fault.

Shakespeare knew the flowers, too, and knew their times and seasons: —

"When daisies pied, and violets blue,
And lady smocks all silver-white,
And cuckoo-buds of yellow hue,
Do paint the meadows with delight."

They have, in England, the cuckoo-flower, which comes in April and is lilac in color, and the cuckoo-pint, which is much like our "Jack in the pulpit;" but the poet does not refer to either of these (if he did, we would catch him tripping), but to buttercups, which are called by rural folk in Britain "cuckoo-buds."

In England the daffodil blooms in February and March; the swallow comes in April usually; hence the truth of Shakespeare's lines: —

"Daffodils,
That come before the swallow dares, and take
The winds of March with beauty."

The only flaw I notice in Shakespeare's natural history is in his treatment of the honey-bee, but this was a flaw in the knowledge of the times as well. The history of this insect was not rightly read till long after Shakespeare wrote. He pictures a colony of bees as a kingdom, with

"A king and officers of sorts"

(see "Henry V."), whereas a colony of bees is an absolute democracy; the rulers and governors and "officers of sorts" are the workers, the masses, the

common people. A strict regard to fact also would spoil those fairy tapers in "Midsummer Night's Dream," —

> "The honey-bags steal from the humble-bees,
> And, for night-tapers, crop their waxen thighs,
> And light them at the fiery glow-worm's eyes," —

since it is not wax that bees bear upon their thighs, but pollen, the dust of the flowers, with which bees make their bread. Wax is made from honey.

The science or the meaning is also a little obscure in this phrase, which occurs in one of the plays: —

> "One heat another heat expels," —

as one nail drives out another, or as one love cures another.

In a passage in "The Tempest" he speaks of the ivy as if it were parasitical, like the mistletoe: —

> "Now, he was
> The ivy which had hid my princely trunk,
> And sucked my verdure out on't."

I believe it is not a fact that the ivy sucks the juice out of the trees it climbs upon, though it may much interfere with their growth. Its aerial rootlets are for support alone, as is the case with all climbers that are not twiners. But this may perhaps be regarded as only a poetic license on the part of Shakespeare; the human ivy he was picturing no

doubt fed upon the tree that supported it, whether the real ivy does or not.

It is also probably untrue that

> "The poor beetle that we tread upon,
> In corporal sufferance finds a pang as great
> As when a giant dies,"

though it has suited the purpose of other poets besides Shakespeare to say so. The higher and more complex the organization, the more acute the pleasure and the pain. A toad has been known to live for days with the upper part of its head cut away by a scythe, and a beetle will survive for hours upon the fisherman's hook. It perhaps causes a grasshopper less pain to detach one of its legs than it does a man to remove a single hair from his beard. Nerves alone feel pain, and the nervous system of a beetle is a very rudimentary affair.

In "Coriolanus" there is a comparison which implies that a man can tread upon his own shadow, — a difficult feat in northern countries at all times except midday; Shakespeare is particular to mention the time of day: —

> "Such a nature,
> Tickled with good success, disdains the shadow
> Which he treads on at noon."

VI

FOOTPATHS

AN intelligent English woman, spending a few years in this country with her family, says that one of her serious disappointments is that she finds it utterly impossible to enjoy nature here as she can at home — so much nature as we have and yet no way of getting at it; no paths, or byways, or stiles, or foot-bridges, no provision for the pedestrian outside of the public road. One would think the people had no feet and legs in this country, or else did not know how to use them. Last summer she spent the season near a small rural village in the valley of the Connecticut, but it seemed as if she had not been in the country: she could not come at the landscape; she could not reach a wood or a hill or a pretty nook anywhere without being a trespasser, or getting entangled in swamps or in fields of grass and grain, or having her course blocked by a high and difficult fence; no private ways, no grassy lanes; nobody walking in the fields or woods, nobody walking anywhere for pleasure, but everybody in carriages or wagons.

She was staying a mile from the village, and

every day used to walk down to the post-office for her mail; but instead of a short and pleasant cut across the fields, as there would have been in England, she was obliged to take the highway and face the dust and the mud and the staring people in their carriages.

She complained, also, of the absence of bird voices, — so silent the fields and groves and orchards were, compared with what she had been used to at home. The most noticeable midsummer sound everywhere was the shrill, brassy crescendo of the locust.

All this is unquestionably true. There is far less bird music here than in England, except possibly in May and June, though, if the first impressions of the Duke of Argyle are to be trusted, there is much less even then. The duke says: "Although I was in the woods and fields of Canada and of the States in the richest moments of the spring, I heard little of that burst of song which in England comes from the blackcap, and the garden warbler, and the whitethroat, and the reed warbler, and the common wren, and (locally) from the nightingale." Our birds are more withdrawn than the English, and their notes more plaintive and intermittent. Yet there are a few days here early in May, when the house wren, the oriole, the orchard starling, the kingbird, the bobolink, and the wood thrush first arrive, that are so full of music, especially in the

morning, that one is loath to believe there is anything fuller or finer even in England. As walkers, and lovers of rural scenes and pastimes, we do not approach our British cousins. It is a seven days' wonder to see anybody walking in this country except on a wager or in a public hall or skating-rink, as an exhibition and trial of endurance.

Countrymen do not walk except from necessity, and country women walk far less than their city sisters. When city people come to the country they do not walk, because that would be conceding too much to the country; beside, they would soil their shoes, and would lose the awe and respect which their imposing turn-outs inspire. Then they find the country dull; it is like water or milk after champagne; they miss the accustomed stimulus, both mind and body relax, and walking is too great an effort.

There are several obvious reasons why the English should be better or more habitual walkers than we are. Taken the year round, their climate is much more favorable to exercise in the open air. Their roads are better, harder, and smoother, and there is a place for the man and a place for the horse. Their country houses and churches and villages are not strung upon the highway as ours are, but are nestled here and there with reference to other things than convenience in "getting out." Hence the grassy lanes and paths through the fields.

Distances are not so great in that country; the population occupies less space. Again, the land has been longer occupied and is more thoroughly subdued; it is easier to get about the fields; life has flowed in the same channels for centuries. The English landscape is like a park, and is so thoroughly rural and mellow and bosky that the temptation to walk amid its scenes is ever present to one. In comparison, nature here is rude, raw, and forbidding; has not that maternal and beneficent look, is less mindful of man, runs to briers and weeds or to naked sterility.

Then as a people the English are a private, domestic, homely folk: they dislike publicity, dislike the highway, dislike noise, and love to feel the grass under their feet. They have a genius for lanes and footpaths; one might almost say they invented them. The charm of them is in their books; their rural poetry is modeled upon them. How much of Wordsworth's poetry is the poetry of pedestrianism! A footpath is sacred in England; the king himself cannot close one; the courts recognize them as something quite as important and inviolable as the highway.

A footpath is of slow growth, and it is a wild, shy thing that is easily scared away. The plow must respect it, and the fence or hedge make way for it. It requires a settled state of things, unchanging habits among the people, and long tenure

A Field Path

of the land; the rill of life that finds its way there must have a perennial source, and flow there to-morrow and the next day and the next century.

When I was a youth and went to school with my brothers, we had a footpath a mile long. On going from home after leaving the highway there was a descent through a meadow, then through a large maple and beech wood, then through a long stretch of rather barren pasture land which brought us to the creek in the valley, which we crossed on a slab or a couple of rails from the near fence; then more meadow land with a neglected orchard, and then the little gray schoolhouse itself toeing the highway. In winter our course was a hard, beaten path in the snow visible from afar, and in summer a well-defined trail. In the woods it wore the roots of the trees. It steered for the gaps or low places in the fences, and avoided the bogs and swamps in the meadow. I can recall yet the very look, the very physiognomy of a large birch-tree that stood beside it in the midst of the woods; it sometimes tripped me up with a large root it sent out like a foot. Neither do I forget the little spring run near by, where we frequently paused to drink, and to gather "crinkle-root" (*Dentaria*) in the early summer; nor the dilapidated log fence that was the highway of the squirrels; nor the ledges to one side, whence in early spring the skunk and coon sallied forth and crossed our path; nor the gray, scabby

rocks in the pasture; nor the solitary tree, nor the old weather-worn stump; no, nor the creek in which I plunged one winter morning in attempting to leap its swollen current. But the path served only one generation of school-children; it faded out more than thirty years ago, and the feet that made it are widely scattered, while some of them have found the path that leads through the Valley of the Shadow. Almost the last words of one of these schoolboys, then a man grown, seemed as if he might have had this very path in mind, and thought himself again returning to his father's house: "I must hurry," he said; "I have a long way to go up a hill and through a dark wood, and it will soon be night."

We are a famous people to go "'cross lots," but we do not make a path, or, if we do, it does not last; the scene changes, the currents set in other directions, or cease entirely, and the path vanishes. In the South one would find plenty of bridle-paths, for there everybody goes horseback, and there are few passable roads; and the hunters and lumbermen of the North have their trails through the forest following a line of blazed trees; but in all my acquaintance with the country, — the rural and agricultural sections, — I do not know a pleasant, inviting path leading from house to house, or from settlement to settlement, by which the pedestrian could shorten or enliven a journey, or

add the charm of the seclusion of the fields to his walk.

What a contrast England presents in this respect, according to Mr. Jennings's pleasant book, "Field Paths and Green Lanes"! The pedestrian may go about quite independent of the highway. Here is a glimpse from his pages: "A path across the field, seen from the station, leads into a road close by the lodge gate of Mr. Cubett's house. A little beyond this gate is another and smaller one, from which a narrow path ascends straight to the top of the hill and comes out just opposite the post-office on Ranmore Common. The Common at another point may be reached by a shorter cut. After entering a path close by the lodge, open the first gate you come to on the right hand. Cross the road, go through the gate opposite, and either follow the road right out upon Ranmore Common, past the beautiful deep dell or ravine, or take a path which you will see on your left, a few yards from the gate. This winds through a very pretty wood, with glimpses of the valley here and there on the way, and eventually brings you out upon the carriage-drive to the house. Turn to the right and you will soon find yourself upon the Common. A road or path opens out in front of the upper lodge gate. Follow that and it will take you to a small piece of water from whence a green path strikes off to the right, and this will lead you all across the Common in a northerly direc-

tion." Thus we may see how the country is threaded with paths. A later writer, the author of "The Gamekeeper at Home" and other books, says: "Those only know a country who are acquainted with its footpaths. By the roads, indeed, the outside may be seen; but the footpaths go through the heart of the land. There are routes by which mile after mile may be traveled without leaving the sward. So you may pass from village to village; now crossing green meadows, now cornfields, over brooks, past woods, through farmyard and rick 'barken.'"

The conditions of life in this country have not been favorable to the development of byways. We do not take to lanes and to the seclusion of the fields. We love to be upon the road, and to plant our houses there, and to appear there mounted upon a horse or seated in a wagon. It is to be distinctly stated, however, that our public highways, with their breadth and amplitude, their wide grassy margins, their picturesque stone or rail fences, their outlooks, and their general free and easy character, are far more inviting to the pedestrian than the narrow lanes and trenches that English highways for the most part are. The road in England is always well kept, the roadbed is often like a rock, but the traveler's view is shut in by high hedges, and very frequently he seems to be passing along a deep, nicely graded ditch. The open, broad land-

scape character of our highways is quite unknown in that country.

The absence of the paths and lanes is not so great a matter, but the decay of the simplicity of manners, and of the habits of pedestrianism which this absence implies, is what I lament. The devil is in the horse to make men proud and fast and ill-mannered; only when you go afoot do you grow in the grace of gentleness and humility. But no good can come out of this walking mania that is now sweeping over the country, simply because it is a mania and not a natural and wholesome impulse. It is a prostitution of the noble pastime.

It is not the walking merely, it is keeping yourself in tune for a walk, in the spiritual and bodily condition in which you can find entertainment and exhilaration in so simple and natural a pastime. You are eligible to any good fortune when you are in the condition to enjoy a walk. When the air and the water taste sweet to you, how much else will taste sweet! When the exercise of your limbs affords you pleasure, and the play of your senses upon the various objects and shows of nature quickens and stimulates your spirit, your relation to the world and to yourself is what it should be, — simple and direct and wholesome. The mood in which you set out on a spring or autumn ramble or a sturdy winter walk, and your greedy feet have to be restrained from devouring the distances too fast,

is the mood in which your best thoughts and impulses come to you, or in which you might embark upon any noble and heroic enterprise. Life is sweet in such moods, the universe is complete, and there is no failure or imperfection anywhere.

VII

A BUNCH OF HERBS

FRAGRANT WILD FLOWERS

THE charge that was long ago made against our wild flowers by English travelers in this country, namely, that they are odorless, doubtless had its origin in the fact that, whereas in England the sweet-scented flowers are among the most common and conspicuous, in this country they are rather shy and withdrawn, and consequently not such as travelers would be likely to encounter. Moreover, the British traveler, remembering the deliciously fragrant blue violets he left at home, covering every grassy slope and meadow bank in spring, and the wild clematis, or traveler's joy, overrunning hedges and old walls with its white, sweet-scented blossoms, and finding the corresponding species here equally abundant but entirely scentless, very naturally infers that our wild flowers are all deficient in this respect. He would be confirmed in this opinion when, on turning to some of our most beautiful and striking native flowers, like the laurel, the rhododendron, the columbine, the inimitable fringed

gentian, the burning cardinal-flower, or our asters and goldenrod, dashing the roadsides with tints of purple and gold, he found them scentless also. "Where are your fragrant flowers?" he might well say; "I can find none." Let him look closer and penetrate our forests, and visit our ponds and lakes. Let him compare our matchless, rosy-lipped, honey-hearted trailing arbutus with his own ugly ground-ivy; let him compare our sumptuous, fragrant pond-lily with his own odorless *Nymphæa alba*. In our Northern woods he will find the floors carpeted with the delicate linnæa, its twin rose-colored, nodding flowers filling the air with fragrance. (I am aware that the linnæa is found in some parts of Northern Europe.) The fact is, we perhaps have as many sweet-scented wild flowers as Europe has, only they are not quite so prominent in our flora, nor so well known to our people or to our poets.

Think of Wordsworth's "Golden Daffodils:" —

"I wandered lonely as a cloud
That floats on high o'er vales and hills,
When, all at once, I saw a crowd,
A host of golden daffodils,
Beside the lake, beneath the trees,
Fluttering and dancing in the breeze.

"Continuous as the stars that shine
And twinkle on the milky way,

They stretched in never-ending line
Along the margin of a bay.
Ten thousand saw I at a glance,
Tossing their heads in sprightly dance."

No such sight could greet the poet's eye here. He might see ten thousand marsh marigolds, or ten times ten thousand houstonias, but they would not toss in the breeze, and they would not be sweet-scented like the daffodils.

It is to be remembered, too, that in the moister atmosphere of England the same amount of fragrance would be much more noticeable than with us. Think how our sweet bay, or our pink azalea, or our white alder, to which they have nothing that corresponds, would perfume that heavy, vapor-laden air!

In the woods and groves in England, the wild hyacinth grows very abundantly in spring, and in places the air is loaded with its fragrance. In our woods a species of dicentra, commonly called squirrel corn, has nearly the same perfume, and its racemes of nodding whitish flowers, tinged with pink, are quite as pleasing to the eye, but it is a shyer, less abundant plant. When our children go to the fields in April and May, they can bring home no wild flowers as pleasing as the sweet English violet, and cowslip, and yellow daffodil, and wall-flower; and when British children go to the woods

at the same season, they can load their hands and baskets with nothing that compares with our trailing arbutus, or, later in the season, with our azaleas; and, when their boys go fishing or boating in summer, they can wreathe themselves with nothing that approaches our pond-lily.

There are upward of thirty species of fragrant native wild flowers and flowering shrubs and trees in New England and New York, and, no doubt, many more in the South and West. My list is as follows: —

White violet (*Viola blanda*).
Canada violet (*Viola Canadensis*).
Hepatica (occasionally fragrant).
Trailing arbutus (*Epigæa repens*).
Mandrake (*Podophyllum peltatum*).
Yellow lady's-slipper (*Cypripedium parviflorum*).
Purple lady's-slipper (*Cypripedium acaule*).
Squirrel corn (*Dicentra Canadensis*).
Showy orchis (*Orchis spectabilis*).
Purple fringed-orchis (*Habenaria psycodes*).
Arethusa (*Arethusa bulbosa*).
Calopogon (*Calopogon pulchellus*).
Lady's-tresses (*Spiranthes cernua*).
Pond-lily (*Nymphæa odorata*).
Wild rose (*Rosa nitida*).
Twin-flower (*Linnæa borealis*).
Sugar maple (*Acer saccharinum*).
Linden (*Tilia Americana*).

Locust-tree (*Robinia pseudacacia*).
White alder (*Clethra alnifolia*).
Smooth azalea (*Rhododendron arborescens*).
White azalea (*Rhododendron viscosum*).
Pinxter-flower (*Rhododendron nudiflorum*).
Yellow azalea (*Rhododendron calendulaceum*).
Sweet bay (*Magnolia glauca*).
Mitchella vine (*Mitchella repens*).
Sweet coltsfoot (*Petasites palmata*).
Pasture thistle (*Cnicus pumilus*).
False wintergreen (*Pyrola rotundifolia*).
Spotted wintergreen (*Chimaphila maculata*).
Prince's pine (*Chimaphila umbellata*).
Evening primrose (*Œnothera biennis*).
Hairy loosestrife (*Steironema ciliatum*).
Dogbane (*Apocynum*).
Ground-nut (*Apios tuberosa*).
Adder's-tongue pogonia (*Pogonia ophioglossoides*).
Wild grape (*Vitis cordofolia*).
Horned bladderwort (*Utricularia cornuta*).

The last-named, horned bladderwort, is perhaps the most fragrant flower we have. In a warm, moist atmosphere, its odor is almost too strong. It is a plant with a slender, leafless stalk or scape less than a foot high, with two or more large yellow hood or helmet shaped flowers. It is not common, and belongs pretty well north, growing in sandy swamps and along the marshy margins of lakes and ponds. Its perfume is sweet and spicy in an emi-

nent degree. I have placed in the above list several flowers that are intermittently fragrant, like the hepatica, or liver-leaf. This flower is the earliest, as it is certainly one of the most beautiful, to be found in our woods, and occasionally it is fragrant. Group after group may be inspected, ranging through all shades of purple and blue, with some perfectly white, and no odor be detected, when presently you will happen upon a little brood of them that have a most delicate and delicious fragrance. The same is true of a species of loosestrife growing along streams and on other wet places, with tall bushy stalks, dark green leaves, and pale axillary yellow flowers (probably European). A handful of these flowers will sometimes exhale a sweet fragrance; at other times, or from another locality, they are scentless. Our evening primrose is thought to be uniformly sweet-scented, but the past season I examined many specimens, and failed to find one that was so. Some seasons the sugar maple yields much sweeter sap than in others; and even individual trees, owing to the soil, moisture, and other conditions where they stand, show a great difference in this respect. The same is doubtless true of the sweet-scented flowers. I had always supposed that our Canada violet — the tall, leafy-stemmed white violet of our Northern woods — was odorless, till a correspondent called my attention to the contrary fact. On examination I found that, while the

first ones that bloomed about May 25 had very sweet-scented foliage, especially when crushed in the hand, the flowers were practically without fragrance. But as the season advanced the fragrance developed, till a single flower had a well-marked perfume, and a handful of them was sweet indeed. A single specimen, plucked about August 1, was quite as fragrant as the English violet, though the perfume is not what is known as violet, but, like that of the hepatica, comes nearer to the odor of certain fruit trees.

It is only for a brief period that the blossoms of our sugar maple are sweet-scented; the perfume seems to become stale after a few days: but pass under this tree just at the right moment, say at nightfall on the first or second day of its perfect inflorescence, and the air is laden with its sweetness; its perfumed breath falls upon you as its cool shadow does a few weeks later.

After the linnæa and the arbutus, the prettiest sweet-scented flowering vine our woods hold is the common mitchella vine, called squaw-berry and partridge-berry. It blooms in June, and its twin flowers, light cream-color, velvety, tubular, exhale a most agreeable fragrance.

Our flora is much more rich in orchids than the European, and many of ours are fragrant. The first to bloom in the spring is the showy orchis, though it is far less showy than several others. I

find it in May, not on hills, where Gray says it grows, but in low, damp places in the woods. It has two oblong shining leaves, with a scape four or five inches high strung with sweet-scented, pink-purple flowers. I usually find it and the fringed polygala in bloom at the same time; the lady's-slipper is a little later. The purple fringed-orchis, one of the most showy and striking of all our orchids, blooms in midsummer in swampy meadows and in marshy, grassy openings in the woods, shooting up a tapering column or cylinder of pink-purple fringed flowers, that one may see at quite a distance, and the perfume of which is too rank for a close room. This flower is, perhaps, like the English fragrant orchis, found in pastures.

Few fragrant flowers in the shape of weeds have come to us from the Old World, and this leads me to remark that plants with sweet-scented flowers are, for the most part, more intensely local, more fastidious and idiosyncratic, than those without perfume. Our native thistle — the pasture thistle — has a marked fragrance, and it is much more shy and limited in its range than the common Old World thistle that grows everywhere. Our little, sweet white violet grows only in wet places, and the Canada violet only in high, cool woods, while the common blue violet is much more general in its distribution. How fastidious and exclusive is the cypripedium! You will find it in one locality in

the woods, usually on high, dry ground, and will look in vain for it elsewhere. It does not go in herds like the commoner plants, but affects privacy and solitude. When I come upon it in my walks, I seem to be intruding upon some very private and exclusive company. The large yellow cypripedium has a peculiar, heavy, oily odor.

In like manner one learns where to look for arbutus, for pipsissewa, for the early orchis; they have their particular haunts, and their surroundings are nearly always the same. The yellow pond-lily is found in every sluggish stream and pond, but *Nymphæa odorata* requires a nicer adjustment of conditions, and consequently is more restricted in its range. If the mullein were fragrant, or toad-flax, or the daisy, or blue-weed, or goldenrod, they would doubtless be far less troublesome to the agriculturist. There are, of course, exceptions to the rule I have here indicated, but it holds in most cases. Genius is a specialty: it does not grow in every soil; it skips the many and touches the few; and the gift of perfume to a flower is a special grace like genius or like beauty, and never becomes common or cheap.

"Do honey and fragrance always go together in the flowers?" Not uniformly. Of the list of fragrant wild flowers I have given, the only ones that the bees procure nectar from, so far as I have observed, are arbutus, dicentra, sugar maple, locust,

and linden. Non-fragrant flowers that yield honey are those of the raspberry, clematis, sumac, white oak, bugloss, ailanthus, goldenrod, aster, fleabane. A large number of odorless plants yield pollen to the bee. There is nectar in the columbine, and the bumblebee sometimes gets it by piercing the spur from the outside as she does with dicentra. There ought to be honey in the honeysuckle, but I have never seen the hive-bee make any attempt to get it.

WEEDS

One is tempted to say that the most human plants, after all, are the weeds. How they cling to man and follow him around the world, and spring up wherever he sets his foot! How they crowd around his barns and dwellings, and throng his garden and jostle and override each other in their strife to be near him! Some of them are so domestic and familiar, and so harmless withal, that one comes to regard them with positive affection. Motherwort, catnip, plantain, tansy, wild mustard, — what a homely human look they have! they are an integral part of every old homestead. Your smart new place will wait long before they draw near it. Or knot-grass, that carpets every old dooryard, and fringes every walk, and softens every path that knows the feet of children, or that leads to the spring, or to the garden, or to the barn, how kindly one comes to look upon it! Examine it with a

pocket glass and see how wonderfully beautiful and exquisite are its tiny blossoms. It loves the human foot, and when the path or the place is long disused, other plants usurp the ground.

The gardener and the farmer are ostensibly the greatest enemies of the weeds, but they are in reality their best friends. Weeds, like rats and mice, increase and spread enormously in a cultivated country. They have better food, more sunshine, and more aids in getting themselves disseminated. They are sent from one end of the land to the other in seed grain of various kinds, and they take their share, and more too, if they can get it, of the phosphates and stable manures. How sure, also, they are to survive any war of extermination that is waged against them! In yonder field are ten thousand and one Canada thistles. The farmer goes resolutely to work and destroys ten thousand and thinks the work is finished, but he has done nothing till he has destroyed the ten thousand and one. This one will keep up the stock and again cover his field with thistles.

Weeds are Nature's makeshift. She rejoices in the grass and the grain, but when these fail to cover her nakedness she resorts to weeds. It is in her plan or a part of her economy to keep the ground constantly covered with vegetation of some sort, and she has layer upon layer of seeds in the soil for this purpose, and the wonder is that each kind

lies dormant until it is wanted. If I uncover the earth in any of my fields, ragweed and pigweed spring up; if these are destroyed, harvest grass, or quack grass, or purslane, appears. The spade or the plow that turns these under is sure to turn up some other variety, as chickweed, sheep-sorrel, or goose-foot. The soil is a storehouse of seeds.

The old farmers say that wood-ashes will bring in the white clover, and they will; the germs are in the soil wrapped in a profound slumber, but this stimulus tickles them until they awake. Stramonium has been known to start up on the site of an old farm building, when it had not been seen in that locality for thirty years. I have been told that a farmer, somewhere in New England, in digging a well came at a great depth upon sand like that of the seashore; it was thrown out, and in due time there sprang from it a marine plant. I have never seen earth taken from so great a depth that it would not before the end of the season be clothed with a crop of weeds. Weeds are so full of expedients, and the one engrossing purpose with them is to multiply. The wild onion multiplies at both ends, — at the top by seed, and at the bottom by offshoots. Toad-flax travels under ground and above ground. Never allow a seed to ripen, and yet it will cover your field. Cut off the head of the wild carrot, and in a week or two there are five heads in place of this one; cut off these, and by fall there

are ten looking defiance at you from the same root. Plant corn in August, and it will go forward with its preparations as if it had the whole season before it. Not so with the weeds; they have learned better. If amaranth, or abutilon, or burdock gets a late start, it makes great haste to develop its seed; it foregoes its tall stalk and wide flaunting growth, and turns all its energies into keeping up the succession of the species. Certain fields under the plow are always infested with "blind nettles," others with wild buckwheat, black bindweed, or cockle. The seed lies dormant under the sward, the warmth and the moisture affect it not until other conditions are fulfilled.

The way in which one plant thus keeps another down is a great mystery. Germs lie there in the soil and resist the stimulating effect of the sun and the rains for years, and show no sign. Presently something whispers to them, "Arise, your chance has come; the coast is clear;" and they are up and doing in a twinkling.

Weeds are great travelers; they are, indeed, the tramps of the vegetable world. They are going east, west, north, south; they walk; they fly; they swim; they steal a ride; they travel by rail, by flood, by wind; they go under ground, and they go above, across lots, and by the highway. But, like other tramps, they find it safest by the highway: in the fields they are intercepted and cut off;

but on the public road, every boy, every passing herd of sheep or cows, gives them a lift. Hence the incursion of a new weed is generally first noticed along the highway or the railroad. In Orange County I saw from the car window a field overrun with what I took to be the branching white mullein. Gray says it is found in Pennsylvania and at the head of Oneida Lake. Doubtless it had come by rail from one place or the other. Our botanist says of the bladder campion, a species of pink, that it has been naturalized around Boston ; but it is now much farther west, and I know fields along the Hudson overrun with it. Streams and water-courses are the natural highway of the weeds. Some years ago, and by some means or other, the viper's bugloss, or blue-weed, which is said to be a troublesome weed in Virginia, effected a lodgment near the head of the Esopus Creek, a tributary of the Hudson. From this point it has made its way down the stream, overrunning its banks and invading meadows and cultivated fields, and proving a serious obstacle to the farmer. All the gravelly, sandy margins and islands of the Esopus, sometimes acres in extent, are in June and July blue with it, and rye and oats and grass in the near fields find it a serious competitor for possession of the soil. It has gone down the Hudson, and is appearing in the fields along its shores. The tides carry it up the mouths of the streams where it takes root; the

winds, or the birds, or other agencies, in time give it another lift, so that it is slowly but surely making its way inland. The bugloss belongs to what may be called beautiful weeds, despite its rough and bristly stalk. Its flowers are deep violet-blue, the stamens exserted, as the botanists say, that is, projected beyond the mouth of the corolla, with showy red anthers. This bit of red, mingling with the blue of the corolla, gives a very rich, warm purple hue to the flower, that is especially pleasing at a little distance. The best thing I know about this weed besides its good looks is that it yields honey or pollen to the bee.

Another foreign plant that the Esopus Creek has distributed along its shores and carried to the Hudson is saponaria, known as "Bouncing Bet." It is a common and in places a troublesome weed in this valley. Bouncing Bet is, perhaps, its English name, as the pink-white complexion of its flowers with their perfume and the coarse, robust character of the plant really give it a kind of English feminine comeliness and bounce. It looks like a Yorkshire housemaid. Still another plant in my section, which I notice has been widely distributed by the agency of water, is the spiked loosestrife. It first appeared many years ago along the Wallkill ; now it may be seen upon many of its tributaries and all along its banks ; and in many of the marshy bays and coves along the Hudson, its great masses of pur-

ple-red bloom in middle and late summer affording a welcome relief to the traveler's eye. It also belongs to the class of beautiful weeds. It grows rank and tall, in dense communities, and always presents to the eye a generous mass of color. In places, the marshes and creek banks are all aglow with it, its wand-like spikes of flowers shooting up and uniting in volumes or pyramids of still flame. Its petals, when examined closely, present a curious wrinkled or crumpled appearance, like newly washed linen; but when massed, the effect is eminently pleasing. It also came from abroad, probably first brought to this country as a garden or ornamental plant.

As a curious illustration of how weeds are carried from one end of the earth to the other, Sir Joseph Hooker relates this circumstance: "On one occasion," he says, "landing on a small uninhabited island nearly at the Antipodes, the first evidence I met with of its having been previously visited by man was the English chickweed; and this I traced to a mound that marked the grave of a British sailor, and that was covered with the plant, doubtless the offspring of seed that had adhered to the spade or mattock with which the grave had been dug."

Ours is a weedy country because it is a roomy country. Weeds love a wide margin, and they find it here. You shall see more weeds in one day's travel in this country than in a week's journey in

Europe. Our culture of the soil is not so close and thorough, our occupancy not so entire and exclusive. The weeds take up with the farmers' leavings, and find good fare. One may see a large slice taken from a field by elecampane, or by teasel or milkweed; whole acres given up to whiteweed, goldenrod, wild carrots, or the ox-eye daisy; meadows overrun with bear-weed, and sheep pastures nearly ruined by St. John's-wort or the Canada thistle. Our farms are so large and our husbandry so loose that we do not mind these things. By and by we shall clean them out. When Sir Joseph Hooker landed in New England a few years ago, he was surprised to find how the European plants flourished there. He found the wild chicory growing far more luxuriantly than he had ever seen it elsewhere, "forming a tangled mass of stems and branches, studded with turquoise-blue blossoms, and covering acres of ground." This is one of the many weeds that Emerson binds into a bouquet in his "Humble-Bee:" —

> "Succory to match the sky,
> Columbine with horn of honey,
> Scented fern and agrimony,
> Clover, catchfly, adder's-tongue,
> And brier-roses, dwelt among."

A less accurate poet than Emerson would probably have let his reader infer that the bumblebee gathered

honey from all these plants, but Emerson is careful to say only that she dwelt among them. Succory is one of Virgil's weeds also, —

"And spreading succ'ry chokes the rising field."

Is there not something in our soil and climate exceptionally favorable to weeds, — something harsh, ungenial, sharp-toothed, that is akin to them? How woody and rank and fibrous many varieties become, lasting the whole season, and standing up stark and stiff through the deep winter snows, — desiccated, preserved by our dry air! Do nettles and thistles bite so sharply in any other country? Let the farmer tell you how they bite of a dry midsummer day when he encounters them in his wheat or oat harvest.

Yet it is a fact that all our more pernicious weeds, like our vermin, are of Old World origin. They hold up their heads and assert themselves here, and take their fill of riot and license; they are avenged for their long years of repression by the stern hand of European agriculture. We have hardly a weed we can call our own. I recall but three that are at all noxious or troublesome, namely, milkweed, ragweed, and goldenrod; but who would miss the last from our fields and highways?

"Along the roadside, like the flowers of gold
That tawny Incas for their gardens wrought,
Heavy with sunshine droops the goldenrod,"

sings Whittier. In Europe our goldenrod is cultivated in the flower gardens, as well it may be. The native species is found mainly in woods, and is much less showy than ours.

Our milkweed is tenacious of life; its roots lie deep, as if to get away from the plow, but it seldom infests cultivated crops. Then its stalk is so full of milk and its pod so full of silk that one cannot but ascribe good intentions to it, if it does sometimes overrun the meadow.

> "In dusty pods the milkweed
> Its hidden silk has spun,"

sings "H. H." in her "September."

Of our ragweed not much can be set down that is complimentary, except that its name in the botany is *Ambrosia*, food of the gods. It must be the food of the gods if anything, for, so far as I have observed, nothing terrestrial eats it, not even billy-goats. (Yet a correspondent writes me that in Kentucky the cattle eat it when hard-pressed, and that a certain old farmer there, one season when the hay crop failed, cut and harvested tons of it for his stock in winter. It is said that the milk and butter made from such hay are not at all suggestive of the traditional Ambrosia!) It is the bane of asthmatic patients, but the gardener makes short work of it. It is about the only one of our weeds that follows the plow and the harrow, and, except that

it is easily destroyed, I should suspect it to be an immigrant from the Old World. Our fleabane is a troublesome weed at times, but good husbandry has little to dread from it.

But all the other outlaws of the farm and garden come to us from over seas; and what a long list it is: —

Common thistle,
Canada thistle,
Burdock,
Yellow dock,
Wild carrot,
Ox-eye daisy,
Chamomile,
Mullein,
Dead-nettle (*Lamium*),
Hemp nettle (*Galeopsis*),
Elecampane,
Plantain,
Motherwort,
Stramonium,
Catnip,
Blue-weed,
Stick-seed,
Hound's-tongue,
Henbane,
Pigweed,
Quitch grass,
Gill,
Nightshade,
Buttercup,
Dandelion,
Wild mustard,
Shepherd's purse,
St. John's-wort
Chickweed,
Purslane,
Mallow,
Darnel,
Poison hemlock,
Hop-clover,
Yarrow,
Wild radish,
Wild parsnip,
Chicory,
Live-forever,
Toad-flax,
Sheep-sorrel,
Mayweed,

and others less noxious. To offset this list we have

given Europe the vilest of all weeds, a parasite that sucks up human blood, tobacco. Now if they catch the Colorado beetle of us, it will go far toward paying them off for the rats and the mice, and for other pests in our houses.

The more attractive and pretty of the British weeds — as the common daisy, of which the poets have made so much, the larkspur, which is a pretty cornfield weed, and the scarlet field-poppy, which flowers all summer, and is so taking amid the ripening grain — have not immigrated to our shores. Like a certain sweet rusticity and charm of European rural life, they do not thrive readily under our skies. Our fleabane has become a common roadside weed in England, and a few other of our native less known plants have gained a foothold in the Old World. Our beautiful jewel-weed has recently appeared along certain of the English rivers.

Pokeweed is a native American, and what a lusty, royal plant it is! It never invades cultivated fields, but hovers about the borders and looks over the fences like a painted Indian sachem. Thoreau coveted its strong purple stalk for a cane, and the robins eat its dark crimson-juiced berries.

It is commonly believed that the mullein is indigenous to this country, for have we not heard that it is cultivated in European gardens, and christened the American velvet plant? Yet it, too, seems to have come over with the Pilgrims, and is most

abundant in the older parts of the country. It abounds throughout Europe and Asia, and had its economic uses with the ancients. The Greeks made lamp-wicks of its dried leaves, and the Romans dipped its dried stalk in tallow for funeral torches. It affects dry uplands in this country, and, as it takes two years to mature, it is not a troublesome weed in cultivated crops. The first year it sits low upon the ground in its coarse flannel leaves, and makes ready; if the plow comes along now, its career is ended. The second season it starts upward its tall stalk, which in late summer is thickly set with small yellow flowers, and in fall is charged with myriads of fine black seeds. "As full as a dry mullein stalk of seeds" is almost equivalent to saying, "as numerous as the sands upon the seashore."

Perhaps the most notable thing about the weeds that have come to us from the Old World, when compared with our native species, is their persistence, not to say pugnacity. They fight for the soil; they plant colonies here and there, and will not be rooted out. Our native weeds are for the most part shy and harmless, and retreat before cultivation, but the European outlaws follow man like vermin; they hang to his coat-skirts, his sheep transport them in their wool, his cow and horse in tail and mane. As I have before said, it is as with the rats and mice. The American rat is in the woods and is rarely seen even by woodmen, and the native

mouse barely hovers upon the outskirts of civilization; while the Old World species defy our traps and our poison, and have usurped the land. So with the weeds. Take the thistle for instance: the common and abundant one everywhere, in fields and along highways, is the European species; while the native thistles, swamp thistle, pasture thistle, etc., are much more shy, and are not at all troublesome. The Canada thistle, too, which came to us by way of Canada, — what a pest, what a usurper, what a defier of the plow and the harrow! I know of but one effectual way to treat it, — put on a pair of buckskin gloves, and pull up every plant that shows itself; this will effect a radical cure in two summers. Of course the plow or the scythe, if not allowed to rest more than a month at a time, will finally conquer it.

Or take the common St. John's-wort, — how it has established itself in our fields and become a most pernicious weed, very difficult to extirpate; while the native species are quite rare, and seldom or never invade cultivated fields, being found mostly in wet and rocky waste places. Of Old World origin, too, is the curled-leaf dock that is so annoying about one's garden and home meadows, its long tapering root clinging to the soil with such tenacity that I have pulled upon it till I could see stars without budging it; it has more lives than a cat, making a shift to live when pulled up and laid on

top of the ground in the burning summer sun. Our native docks are mostly found in swamps, or near them, and are harmless.

Purslane — commonly called "pusley," and which has given rise to the saying, "as mean as pusley" — of course is not American. A good sample of our native purslane is the claytonia, or spring beauty, a shy, delicate plant that opens its rose-colored flowers in the moist, sunny places in the woods or along their borders so early in the season.

There are few more obnoxious weeds in cultivated ground than sheep-sorrel, also an Old World plant; while our native wood-sorrel, with its white, delicately veined flowers, or the variety with yellow flowers, is quite harmless. The same is true of the mallow, the vetch, the tare, and other plants. We have no native plant so indestructible as garden orpine, or live-forever, which our grandmothers nursed, and for which they are cursed by many a farmer. The fat, tender, succulent dooryard stripling turned out to be a monster that would devour the earth. I have seen acres of meadow land destroyed by it. The way to drown an amphibious animal is never to allow it to come to the surface to breathe, and this is the way to kill live-forever. It lives by its stalk and leaf, more than by its root, and, if cropped or bruised as soon as it comes to the surface, it will in time perish. It laughs the

plow, the hoe, the cultivator to scorn, but grazing herds will eventually scotch it. Our two species of native orpine, *Sedum ternatum* and *S. telephioides*, are never troublesome as weeds.

The European weeds are sophisticated, domesticated, civilized; they have been to school to man for many hundred years, and they have learned to thrive upon him: their struggle for existence has been sharp and protracted; it has made them hardy and prolific; they will thrive in a lean soil, or they will wax strong in a rich one; in all cases they follow man and profit by him. Our native weeds, on the other hand, are furtive and retiring; they flee before the plow and the scythe, and hide in corners and remote waste places. Will they, too, in time, change their habits in this respect?

"Idle weeds are fast in growth," says Shakespeare, but that depends upon whether the competition is sharp and close. If the weed finds itself distanced, or pitted against great odds, it grows more slowly and is of diminished stature, but let it once get the upper hand, and what strides it makes! Red-root will grow four or five feet high if it has a chance, or it will content itself with a few inches and mature its seed almost upon the ground.

Many of our worst weeds are plants that have escaped from cultivation, as the wild radish, which is troublesome in parts of New England; the wild carrot, which infests the fields in eastern New York;

and the live-forever, which thrives and multiplies under the plow and harrow. In my section an annoying weed is abutilon, or velvet-leaf, also called "old maid," which has fallen from the grace of the garden and followed the plow afield. It will manage to mature its seeds if not allowed to start till midsummer.

Of beautiful weeds quite a long list might be made without including any of the so-called wild flowers. A favorite of mine is the little moth mullein that blooms along the highway, and about the fields, and maybe upon the edge of the lawn, from midsummer till frost comes. In winter its slender stalk rises above the snow, bearing its round seed-pods on its pin-like stems, and is pleasing even then. Its flowers are yellow or white, large, wheel-shaped, and are borne vertically with filaments loaded with little tufts of violet wool. The plant has none of the coarse, hairy character of the common mullein. Our cone-flower, which one of our poets has called the "brown-eyed daisy," has a pleasing effect when in vast numbers they invade a meadow (if it is not your meadow), their dark brown centres or disks and their golden rays showing conspicuously.

Bidens, two-teeth, or "pitchforks," as the boys call them, are welcomed by the eye when in late summer they make the swamps and wet, waste places yellow with their blossoms.

Vervain is a beautiful weed, especially the blue or purple variety. Its drooping knotted threads also make a pretty etching upon the winter snow.

Iron-weed, which looks like an overgrown aster, has the same intense purple-blue color, and a royal profusion of flowers. There are giants among the weeds, as well as dwarfs and pigmies. One of the giants is purple eupatorium, which sometimes carries its corymbs of flesh-colored flowers ten and twelve feet high. A pretty and curious little weed, sometimes found growing in the edge of the garden, is the clasping specularia, a relative of the harebell and of the European Venus's looking-glass. Its leaves are shell-shaped, and clasp the stalk so as to form little shallow cups. In the bottom of each cup three buds appear that never expand into flowers; but when the top of the stalk is reached, one and sometimes two buds open a large, delicate purple-blue corolla. All the first-born of this plant are still-born, as it were; only the latest, which spring from its summit, attain to perfect bloom. A weed which one ruthlessly demolishes when he finds it hiding from the plow amid the strawberries, or under the currant-bushes and grapevines, is the dandelion; yet who would banish it from the meadows or the lawns, where it copies in gold upon the green expanse the stars of the midnight sky? After its first blooming comes its second and finer and more spiritual inflorescence, when its stalk, drop-

ping its more earthly and carnal flower, shoots upward, and is presently crowned by a globe of the most delicate and aerial texture. It is like the poet's dream, which succeeds his rank and golden youth. This globe is a fleet of a hundred fairy balloons, each one of which bears a seed which it is destined to drop far from the parent source.

Most weeds have their uses; they are not wholly malevolent. Emerson says a weed is a plant whose virtues we have not yet discovered ; but the wild creatures discover their virtues if we do not. The bumblebee has discovered that the hateful toad-flax, which nothing will eat, and which in some soils will run out the grass, has honey at its heart. Narrow-leaved plantain is readily eaten by cattle, and the honey-bee gathers much pollen from it. The ox-eye daisy makes a fair quality of hay if cut before it gets ripe. The cows will eat the leaves of the burdock and the stinging nettles of the woods. But what cannot a cow's tongue stand? She will crop the poison ivy with impunity, and I think would eat thistles if she found them growing in the garden. Leeks and garlics are readily eaten by cattle in the spring, and are said to be medicinal to them. Weeds that yield neither pasturage for bee nor herd yet afford seeds to the fall and winter birds. This is true of most of the obnoxious weeds of the garden, and of thistles. The wild lettuce yields down for the hummingbird's nest, and the

flowers of whiteweed are used by the kingbird and cedar-bird.

Yet it is pleasant to remember that, in our climate, there are no weeds so persistent and lasting and universal as grass. Grass is the natural covering of the fields. There are but four weeds that I know of — milkweed, live-forever, Canada thistle, and toad-flax — that it will not run out in a good soil. We crop it and mow it year after year ; and yet, if the season favors, it is sure to come again. Fields that have never known the plow, and never been seeded by man, are yet covered with grass. And in human nature, too, weeds are by no means in the ascendant, troublesome as they are. The good green grass of love and truthfulness and common sense is more universal, and crowds the idle weeds to the wall.

But weeds have this virtue; they are not easily discouraged ; they never lose heart entirely ; they die game. If they cannot have the best, they will take up with the poorest ; if fortune is unkind to them to-day, they hope for better luck to-morrow; if they cannot lord it over a corn-hill, they will sit humbly at its foot and accept what comes ; in all cases they make the most of their opportunities.

VIII

WINTER PICTURES

A WHITE DAY AND A RED FOX

THE day was indeed white, as white as three feet of snow and a cloudless St. Valentine's sun could make it. The eye could not look forth without blinking, or veiling itself with tears. The patch of plowed ground on the top of the hill, where the wind had blown the snow away, was as welcome to it as water to a parched tongue. It was the one refreshing oasis in this desert of dazzling light. I sat down upon it to let the eye bathe and revel in it. It took away the smart like a poultice. For so gentle and on the whole so beneficent an element, the snow asserts itself very proudly. It takes the world quickly and entirely to itself. It makes no concessions or compromises, but rules despotically. It baffles and bewilders the eye, and it returns the sun glare for glare. Its coming in our winter climate is the hand of mercy to the earth and to everything in its bosom, but it is a barrier and an embargo to everything that moves above.

We toiled up the long steep hill, where only an

occasional mullein-stalk or other tall weed stood above the snow. Near the top the hill was girded with a bank of snow that blotted out the stone wall and every vestige of the earth beneath. These hills wear this belt till May, and sometimes the plow pauses beside them. From the top of the ridge an immense landscape in immaculate white stretches before us. Miles upon miles of farms, smoothed and padded by the stainless element, hang upon the sides of the mountains, or repose across the long sloping hills. The fences or stone walls show like half-obliterated black lines. I turn my back to the sun, or shade my eyes with my hand. Every object or movement in the landscape is sharply revealed; one could see a fox half a league. The farmer foddering his cattle, or drawing manure afield, or leading his horse to water; the pedestrian crossing the hill below; the children wending their way toward the distant schoolhouse, — the eye cannot help but note them: they are black specks upon square miles of luminous white. What a multitude of sins this unstinted charity of the snow covers! How it flatters the ground! Yonder sterile field might be a garden, and you would never suspect that that gentle slope with its pretty dimples and curves was not the smoothest of meadows, yet it is paved with rocks and stone.

But what is that black speck creeping across that cleared field near the top of the mountain at the

head of the valley, three quarters of a mile away? It is like a fly moving across an illuminated surface. A distant mellow bay floats to us, and we know it is the hound. He picked up the trail of the fox half an hour since, where he had crossed the ridge early in the morning, and now he has routed him and Reynard is steering for the Big Mountain. We press on and attain the shoulder of the range, where we strike a trail two or three days old of some former hunters, which leads us into the woods along the side of the mountain. We are on the first plateau before the summit; the snow partly supports us, but when it gives way and we sound it with our legs, we find it up to our hips. Here we enter a white world indeed. It is like some conjurer's trick. The very trees have turned to snow. The smallest branch is like a cluster of great white antlers. The eye is bewildered by the soft fleecy labyrinth before it. On the lower ranges the forests were entirely bare, but now we perceive the summit of every mountain about us runs up into a kind of arctic region where the trees are loaded with snow. The beginning of this colder zone is sharply marked all around the horizon ; the line runs as level as the shore line of a lake or sea; indeed, a warmer aerial sea fills all the valleys, submerging the lower peaks, and making white islands of all the higher ones. The branches bend with the rime. The winds have not shaken it down.

It adheres to them like a growth. On examination I find the branches coated with ice, from which shoot slender spikes and needles that penetrate and hold the cord of snow. It is a new kind of foliage wrought by the frost and the clouds, and it obscures the sky, and fills the vistas of the woods nearly as much as the myriad leaves of summer. The sun blazes, the sky is without a cloud or a film, yet we walk in a soft white shade. A gentle breeze was blowing on the open crest of the mountain, but one could carry a lighted candle through these snow-curtained and snow-canopied chambers. How shall we see the fox if the hound drives him through this white obscurity? But we listen in vain for the voice of the dog and press on. Hares' tracks were numerous. Their great soft pads had left their imprint everywhere, sometimes showing a clear leap of ten feet. They had regular circuits which we crossed at intervals. The woods were well suited to them, low and dense, and, as we saw, liable at times to wear a livery whiter than their own.

The mice, too, how thick their tracks were, that of the white-footed mouse being most abundant; but occasionally there was a much finer track, with strides or leaps scarcely more than an inch apart. This is perhaps the little shrew-mouse of the woods, the body not more than an inch and a half long, the smallest mole or mouse kind known to me. Once, while encamping in the woods, one of these

tiny shrews got into an empty pail standing in camp, and died before morning, either from the cold, or in despair of ever getting out of the pail.

At one point, around a small sugar maple, the mice-tracks are unusually thick. It is doubtless their granary ; they have beech-nuts stored there, I 'll warrant. There are two entrances to the cavity of the tree, — one at the base, and one seven or eight feet up. At the upper one, which is only just the size of a mouse, a squirrel has been trying to break in. He has cut and chiseled the solid wood to the depth of nearly an inch, and his chips strew the snow all about. He knows what is in there, and the mice know that he knows; hence their apparent consternation. They have rushed wildly about over the snow, and, I doubt not, have given the piratical red squirrel a piece of their minds. A few yards away the mice have a hole down into the snow, which perhaps leads to some snug den under the ground. Hither they may have been slyly removing their stores while the squirrel was at work with his back turned. One more night and he will effect an entrance : what a good joke upon him if he finds the cavity empty! These native mice are very provident, and, I imagine, have to take many precautions to prevent their winter stores being plundered by the squirrels, who live, as it were, from hand to mouth.

We see several fresh fox-tracks, and wish for the

hound, but there are no tidings of him. After half an hour's floundering and cautiously picking our way through the woods, we emerge into a cleared field that stretches up from the valley below, and just laps over the back of the mountain. It is a broad belt of white that drops down and down till it joins other fields that sweep along the base of the mountain, a mile away. To the east, through a deep defile in the mountains, a landscape in an adjoining county lifts itself up, like a bank of white and gray clouds.

When the experienced fox-hunter comes out upon such an eminence as this, he always scrutinizes the fields closely that lie beneath him, and it many times happens that his sharp eye detects Reynard asleep upon a rock or a stone wall, in which case, if he be armed with a rifle and his dog be not near, the poor creature never wakens from his slumber. The fox nearly always takes his nap in the open fields, along the sides of the ridges, or under the mountain, where he can look down upon the busy farms beneath and hear their many sounds, the barking of dogs, the lowing of cattle, the cackling of hens, the voices of men and boys, or the sound of travel upon the highway. It is on that side, too, that he keeps the sharpest lookout, and the appearance of the hunter above and behind him is always a surprise.

We pause here, and, with alert ears turned toward the Big Mountain in front of us, listen for

the dog. But not a sound is heard. A flock of snow buntings pass high above us, uttering their contented twitter, and their white forms seen against the intense blue give the impression of large snowflakes drifting across the sky. I hear a purple finch, too, and the feeble lisp of the redpoll. A shrike (the first I have seen this season) finds occasion to come this way also. He alights on the tip of a dry limb, and from his perch can see into the valley on both sides of the mountain. He is prowling about for chickadees, no doubt, a troop of which I saw coming through the wood. When pursued by the shrike, the chickadee has been seen to take refuge in a squirrel-hole in a tree. Hark! Is that the hound, or doth expectation mock the eager ear? With open mouths and bated breaths we listen. Yes, it is old "Singer;" he is bringing the fox over the top of the range toward Butt End, the *Ultima Thule* of the hunters' tramps in this section. In a moment or two the dog is lost to hearing again. We wait for his second turn; then for his third.

"He is playing about the summit," says my companion.

"Let us go there," say I, and we are off.

More dense snow-hung woods beyond the clearing where we begin our ascent of the Big Mountain, — a chief that carries the range up several hundred feet higher than the part we have thus far traversed. We are occasionally to our hips in the snow, but

for the most part the older stratum, a foot or so down, bears us; up and up we go into the dim, muffled solitudes, our hats and coats powdered like millers'. A half-hour's heavy tramping brings us to the broad, level summit, and to where the fox and hound have crossed and recrossed many times. As we are walking along discussing the matter, we suddenly hear the dog coming straight on to us. The woods are so choked with snow that we do not hear him till he breaks up from under the mountain within a hundred yards of us.

"We have turned the fox!" we both exclaim, much put out.

Sure enough, we have. The dog appears in sight, is puzzled a moment, then turns sharply to the left, and is lost to eye and to ear as quickly as if he had plunged into a cave. The woods are, indeed, a kind of cave, — a cave of alabaster, with the sun shining upon it. We take up positions and wait. These old hunters know exactly where to stand.

"If the fox comes back," said my companion, "he will cross up there or down here," indicating two points not twenty rods asunder.

We stood so that each commanded one of the runways indicated. How light it was, though the sun was hidden! Every branch and twig beamed in the sun like a lamp. A downy woodpecker below me kept up a great fuss and clatter, — all for my benefit, I suspected. All about me were great, soft

mounds, where the rocks lay buried. It was a cemetery of drift boulders. There! that is the hound. Does his voice come across the valley from the spur off against us, or is it on our side down under the mountain? After an interval, just as I am thinking the dog is going away from us along the opposite range, his voice comes up astonishingly near. A mass of snow falls from a branch, and makes one start; but it is not the fox. Then through the white vista below me I catch a glimpse of something red or yellow, yellowish red or reddish yellow; it emerges from the lower ground, and, with an easy, jaunty air, draws near. I am ready and just in the mood to make a good shot. The fox stops just out of range and listens for the hound. He looks as bright as an autumn leaf upon the spotless surface. Then he starts on, but he is not coming to me, he is going to the other man. Oh, foolish fox, you are going straight into the jaws of death! My comrade stands just there beside that tree. I would gladly have given Reynard the wink, or signaled to him, if I could. It did seem a pity to shoot him, now he was out of my reach. I cringe for him, when crack goes the gun! The fox squalls, picks himself up, and plunges over the brink of the mountain. The hunter has not missed his aim, but the oil in his gun, he says, has weakened the strength of his powder. The hound, hearing the report, comes like a whirlwind and is off in hot

pursuit. Both fox and dog now bleed, — the dog at his heels, the fox from his wounds.

In a few minutes there came up from under the mountain that long, peculiar bark which the hound always makes when he has run the fox in, or when something new and extraordinary has happened. In this instance he said plainly enough, "The race is up, the coward has taken to his hole, ho-o-o-le." Plunging down in the direction of the sound, the snow literally to our waists, we were soon at the spot, a great ledge thatched over with three or four feet of snow. The dog was alternately licking his heels and whining and berating the fox. The opening into which the latter had fled was partially closed, and, as I scraped out and cleared away the snow, I thought of the familiar saying, that so far as the sun shines in, the snow will blow in. The fox, I suspect, has always his house of refuge, or knows at once where to flee to if hard pressed. This place proved to be a large vertical seam in the rock, into which the dog, on a little encouragement from his master, made his way. I thrust my head into the ledge's mouth, and in the dim light watched the dog. He progressed slowly and cautiously till only his bleeding heels were visible. Here some obstacle impeded him a few moments, when he entirely disappeared and was presently face to face with the fox and engaged in mortal combat with him. It is a fierce encounter there beneath the

rocks, the fox silent, the dog very vociferous. But after a time the superior weight and strength of the latter prevails and the fox is brought to light nearly dead. Reynard winks and eyes me suspiciously, as I stroke his head and praise his heroic defense; but the hunter quickly and mercifully puts an end to his fast-ebbing life. His canine teeth seem unusually large and formidable, and the dog bears the marks of them in many deep gashes upon his face and nose. His pelt is quickly stripped off, revealing his lean, sinewy form.

The fox was not as poor in flesh as I expected to see him, though I'll warrant he had tasted very little food for days, perhaps for weeks. How his great activity and endurance can be kept up, on the spare diet he must of necessity be confined to, is a mystery. Snow, snow everywhere, for weeks and for months, and intense cold, and no henroost accessible, and no carcass of sheep or pig in the neighborhood! The hunter, tramping miles and leagues through his haunts, rarely sees any sign of his having caught anything. Rarely, though, in the course of many winters, he may have seen evidence of his having surprised a rabbit or a partridge in the woods. He no doubt at this season lives largely upon the memory (or the fat) of the many good dinners he had in the plentiful summer and fall.

As we crossed the mountain on our return, we saw at one point blood-stains upon the snow, and,

as the fox-tracks were very thick on and about it, we concluded that a couple of males had had an encounter there, and a pretty sharp one. Reynard goes a-wooing in February, and it is to be presumed that, like other dogs, he is a jealous lover. A crow had alighted and examined the blood-stains, and now, if he will look a little farther along, upon a flat rock he will find the flesh he was looking for. Our hound's nose was so blunted now, speaking without metaphor, that he would not look at another trail, but hurried home to rest upon his laurels.

A POTOMAC SKETCH

While on a visit to Washington in January, 1878, I went on an expedition down the Potomac with a couple of friends to shoot ducks. We left on the morning boat that makes daily trips to and from Mount Vernon. The weather was chilly and the sky threatening. The clouds had a singular appearance; they were boat-shaped, with well-defined keels. I have seldom known such clouds to bring rain; they are simply the fleet of Æolus, and so it proved on this occasion, for they gradually dispersed or faded out and before noon the sun was shining.

We saw numerous flocks of ducks on the passage down, and saw a gun (the man was concealed) shoot some from a "blind" near Fort Washington. Opposite Mount Vernon, on the flats, there was a large "bed" of ducks. I thought the word a good

one to describe a long strip of water thickly planted with them. One of my friends was a member of the Washington and Mount Vernon Ducking Club, which has its camp and fixtures just below the Mount Vernon landing; he was an old ducker. For my part, I had never killed a duck, — except with an axe, — nor have I yet.

We made our way along the beach from the landing, over piles of driftwood, and soon reached the quarters, a substantial building, fitted up with a stove, bunks, chairs, a table, culinary utensils, crockery, etc., with one corner piled full of decoys. There were boats to row in and boxes to shoot from, and I felt sure we should have a pleasant time, whether we got any ducks or not. The weather improved hourly, till in the afternoon a well-defined installment of the Indian summer, that had been delayed somewhere, settled down upon the scene; this lasted during our stay of two days. The river was placid, even glassy, the air richly and deeply toned with haze, and the sun that of the mellowest October. "The fairer the weather, the fewer the ducks," said one of my companions. "But this is better than ducks," I thought, and prayed that it might last.

Then there was something pleasing to the fancy in being so near to Mount Vernon. It formed a sort of rich, historic background to our flitting and trivial experiences. Just where the eye of the great

Captain would perhaps first strike the water as he came out in the morning to take a turn up and down his long piazza, the Club had formerly had a "blind," but the ice of a few weeks before our visit had carried it away. A little lower down, and in full view from his bedroom window, was the place where the shooting from the boxes was usually done.

The duck is an early bird, and not much given to wandering about in the afternoon; hence it was thought not worth while to put out the decoys till the next morning. We would spend the afternoon roaming inland in quest of quail, or rabbits, or turkeys (for a brood of the last were known to lurk about the woods back there). It was a delightful afternoon's tramp through oak woods, pine barrens, and half-wild fields. We flushed several quail that the dog should have pointed, and put a rabbit to rout by a well-directed broadside, but brought no game to camp. We kicked about an old bushy clearing, where my friends had shot a wild turkey Thanksgiving Day, but the turkey could not be started again. One shooting had sufficed for it. We crossed or penetrated extensive pine woods that had once (perhaps in Washington's time) been cultivated fields; the mark of the plow was still clearly visible. The land had been thrown into ridges, after the manner of English fields, eight or ten feet wide, with a deep dead furrow between them for purposes of drainage. The pines were scrubby, —

what are known as the loblolly pines, — and from ten to twelve inches through at the butt. In a low bottom, among some red cedars, I saw robins and several hermit thrushes, besides the yellow-rumped warbler.

That night, as the sun went down on the one hand, the full moon rose up on the other, like the opposite side of an enormous scale. The river, too, was presently brimming with the flood tide. It was so still one could have carried a lighted candle from shore to shore. In a little skiff, we floated and paddled up under the shadow of Mount Vernon and into the mouth of a large creek that flanks it on the left. In the profound hush of things, every sound on either shore was distinctly heard. A large bed of ducks were feeding over on the Maryland side, a mile or more away, and the multitudinous sputtering and shuffling of their bills in the water sounded deceptively near. Silently we paddled in that direction. When about half a mile from them, all sound of feeding suddenly ceased; then, after a time, as we kept on, there was a great clamor of wings, and the whole bed appeared to take flight. We paused and listened, and presently heard them take to the water again, far below and beyond us.

We loaded a boat with the decoys that night, and in the morning, on the first sign of day, towed a box out in position, and anchored it, and disposed the decoys about it. Two hundred painted wooden

ducks, each anchored by a small weight that was attached by a cord to the breast, bowed and sidled and rode the water, and did everything but feed, in a bed many yards long. The shooting-box is a kind of coffin, in which the gunner is interred amid the decoys, — buried below the surface of the water, and invisible, except from a point above him. The box has broad canvas wings, that unfold and spread out upon the surface of the water, four or five feet each way. These steady it, and keep the ripples from running in when there is a breeze. Iron decoys sit upon these wings and upon the edge of the box, and sink it to the required level, so that, when everything is completed and the gunner is in position, from a distance or from the shore one sees only a large bed of ducks, with the line a little more pronounced in the centre, where the sportsman lies entombed, to be quickly resurrected when the game appears. He lies there stark and stiff upon his back, like a marble effigy upon a tomb, his gun by his side, with barely room to straighten himself in, and nothing to look at but the sky above him. His companions on shore keep a lookout, and, when ducks are seen on the wing, cry out, "Mark, coming up," or "Mark, coming down," or, "Mark, coming in," as the case may be. If they decoy, the gunner presently hears the whistle of their wings, or maybe he catches a glimpse of them over the rim of the box as they circle about. Just as they let

down their feet to alight, he is expected to spring up and pour his broadside into them. A boat from shore comes and picks up the game, if there is any to pick up.

The club-man, by common consent, was the first in the box that morning; but only a few ducks were moving, and he had lain there an hour before we marked a solitary bird approaching, and, after circling over the decoys, alighting a little beyond them. The sportsman sprang up as from the bed of the river, and the duck sprang up at the same time, and got away under fire. After a while my other companion went out; but the ducks passed by on the other side, and he had no shots. In the afternoon, remembering the robins, and that robins are game when one's larder is low, I set out alone for the pine bottoms, a mile or more distant. When one is loaded for robins, he may expect to see turkeys, and *vice versa*. As I was walking carelessly on the borders of an old brambly field that stretched a long distance beside the pine woods, I heard a noise in front of me, and, on looking in that direction, saw a veritable turkey, with a spread tail, leaping along at a rapid rate. She was so completely the image of the barnyard fowl that I was slow to realize that here was the most notable game of that part of Virginia, for the sight of which sportsmen's eyes do water. As she was fairly on the wing, I sent my robin-shot after her; but they made no

impression, and I stood and watched with great interest her long, level flight. As she neared the end of the clearing, she set her wings and sailed straight into the corner of the woods. I found no robins, but went back satisfied with having seen the turkey, and having had an experience that I knew would stir up the envy and the disgust of my companions. They listened with ill-concealed impatience, stamped the ground a few times, uttered a vehement protest against the caprice of fortune that always puts the game in the wrong place or the gun in the wrong hands, and rushed off in quest of that turkey. She was not where they looked, of course; and, on their return about sundown, when they had ceased to think about their game, she flew out of the top of a pine-tree not thirty rods from camp, and in full view of them, but too far off for a shot.

In my wanderings that afternoon, I came upon two negro shanties in a small triangular clearing in the woods; no road but only a footpath led to them. Three or four children, the eldest a girl of twelve, were about the door of one of them. I approached and asked for a drink of water. The girl got a glass and showed me to the spring near by.

"We's grandmover's daughter's chilern," she said, in reply to my inquiry. Their mother worked in Washington for "eighteen cents a month," and their grandmother took care of them.

Then I thought I would pump her about the natural history of the place.

"What was there in these woods, — what kind of animals, — any?"

"Oh, yes, sah, when we first come here to live in dese bottoms de possums and foxes and things were so thick you could hardly go out-o'-doors." A fox had come along one day right where her mother was washing, and they used to catch the chickens "dreadful."

"Were there any snakes?"

"Yes, sah; black snakes, moccasins, and doctors."

The doctor, she said, was a powerful ugly customer; it would get right hold of your leg as you were passing along, and whip and sting you to death. I hoped I should not meet any "doctors."

I asked her if they caught any rabbits.

"Oh, yes, we catches dem in 'gums.'"

"What are gums?" I asked.

"See dat down dare? Dat's a 'gum.'"

I saw a rude box-trap made of rough boards. It seems these traps, and many other things, such as beehives, and tubs, etc., are frequently made in the South from a hollow gum-tree; hence the name gum has come to have a wide application.

The ducks flew quite briskly that night; I could hear the whistle of their wings as I stood upon the shore indulging myself in listening. The ear loves a good field as well as the eye, and the night

is the best time to listen, to put your ear to Nature's keyhole and see what the whisperings and the preparations mean.

"Dark night, that from the eye his function takes,
The ear more quick of apprehension makes,"

says Shakespeare. I overheard some muskrats engaged in a very gentle and affectionate jabber beneath a rude pier of brush and earth upon which I was standing. The old, old story was evidently being rehearsed under there, but the occasional splashing of the ice-cold water made it seem like very chilling business ; still we all know it is not. Our decoys had not been brought in, and I distinctly heard some ducks splash in among them. The sound of oar-locks in the distance next caught my ears. They were so far away that it took some time to decide whether or not they were approaching. But they finally grew more distinct, — the steady, measured beat of an oar in a wooden lock, a very pleasing sound coming over still, moonlit waters. It was an hour before the boat emerged into view and passed my post. A white, misty obscurity began to gather over the waters, and in the morning this had grown to be a dense fog. By early dawn one of my friends was again in the box, and presently his gun went bang! bang! then bang! came again from the second gun he had taken with him, and we imagined the water strewn with ducks.

But he reported only one. It floated to him and was picked up, so we need not go out. In the dimness and silence we rowed up and down the shore in hopes of starting up a stray duck that might possibly decoy. We saw many objects that simulated ducks pretty well through the obscurity, but they failed to take wing on our approach. The most pleasing thing we saw was a large, rude boat, propelled by four colored oarsmen. It looked as if it might have come out of some old picture. Two oarsmen were seated in the bows, pulling, and two stood up in the stern, facing their companions, each working a long oar, bending and recovering and uttering a low, wild chant. The spectacle emerged from the fog on the one hand and plunged into it on the other.

Later in the morning, we were attracted by another craft. We heard it coming down upon us long before it emerged into view. It made a sound as of some unwieldy creature slowly pawing the water, and when it became visible through the fog the sight did not belie the ear. We beheld an awkward black hulk that looked as if it might have been made out of the bones of the first steamboat, or was it some Virginia colored man's study of that craft? Its wheels consisted each of two timbers crossing each other at right angles. As the shaft slowly turned, these timbers pawed and pawed the water. It hove to on the flats near our quarters, and

a colored man came off in a boat. To our inquiry, he said with a grin that his craft was a "floating saw-mill."

After a while I took my turn in the box, and, with a life-preserver for a pillow, lay there on my back, pressed down between the narrow sides, the muzzle of my gun resting upon my toe and its stock upon my stomach, waiting for the silly ducks to come. I was rather in hopes they would not come, for I felt pretty certain that I could not get up promptly in such narrow quarters and deliver my shot with any precision. As nothing could be seen, and as it was very still, it was a good time to listen again. I was virtually under water, and in a good medium for the transmission of sounds. The barking of dogs on the Maryland shore was quite audible, and I heard with great distinctness a Maryland lass call some one to breakfast. They were astir up at Mount Vernon, too, though the fog hid them from view. I heard the mocking or Carolina wren alongshore calling quite plainly the words a Georgetown poet has put in his mouth, — "Sweetheart, sweetheart, sweet!" Presently I heard the whistle of approaching wings, and a solitary duck alighted back of me over my right shoulder, — just the most awkward position for me she could have assumed. I raised my head a little, and skimmed the water with my eye. The duck was swimming about just beyond the decoys, apparently apprehensive that

she was intruding upon the society of her betters. She would approach a little, and then, as the stiff, aristocratic decoys made no sign of welcome or recognition, she would sidle off again. "Who are they, that they should hold themselves so loftily and never condescend to notice a forlorn duck?" I imagined her saying. Should I spring up and show my hand and demand her surrender? It was clearly my duty to do so. I wondered if the boys were looking from shore, for the fog had lifted a little. But I must act, or the duck would be off. I began to turn slowly in my sepulchre and to gather up my benumbed limbs; I then made a rush and got up, and had a fairly good shot as the duck flew across my bows, but I failed to stop her. A man in the woods in the line of my shot cried out angrily, "Stop shooting this way!"

I lay down again and faced the sun, that had now burned its way through the fog, till I was nearly blind, but no more ducks decoyed, and I called out to be relieved.

With our one duck, but with many pleasant remembrances, we returned to Washington that afternoon.

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